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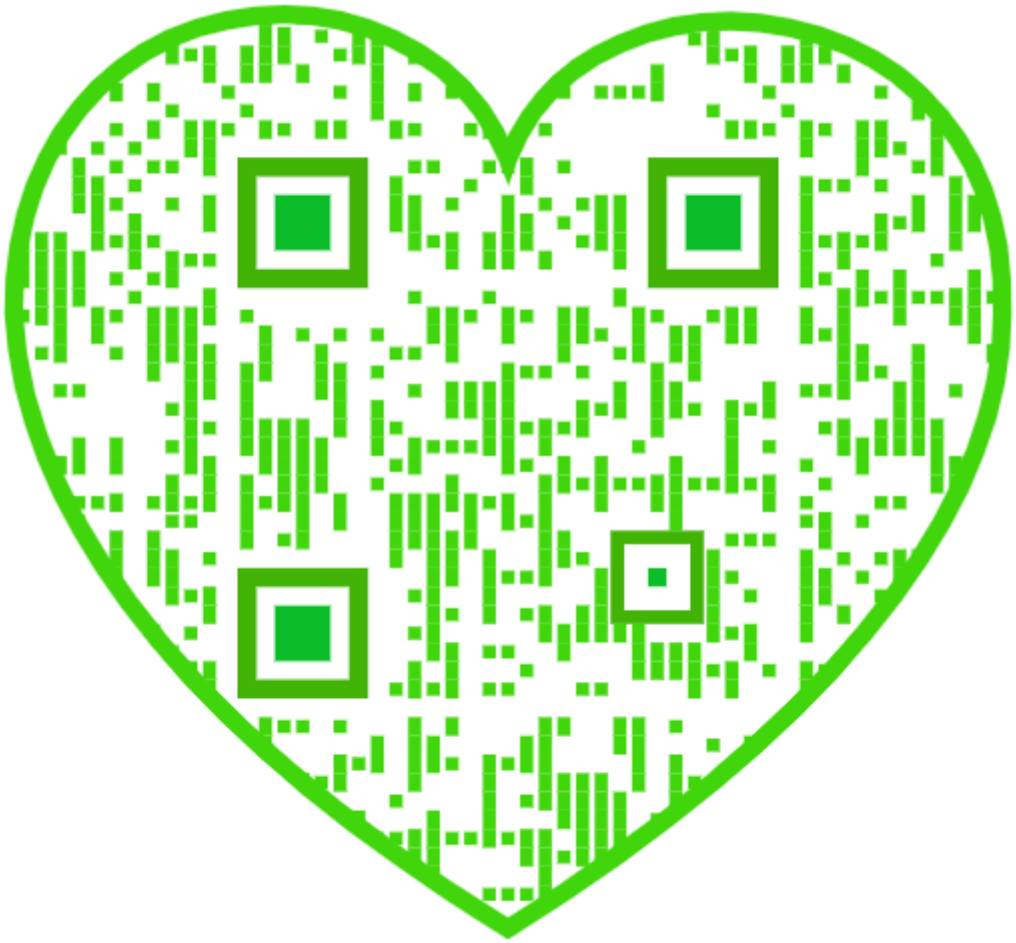

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How to Succeed

WITH THE

Home Orchard

L. A. NIVEN

THE PROGRESSIVE FARMER
ORCHARD BOOK

YOUNG APPLE ORCHARD
Strawberries in Between the Rows

How To Succeed

WITH

The Home Orchard

By

L. A. NIVEN, B. Agr.

Advertising Manager

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PREFACE

This little book is intended to cover the ABC's of orchard work. It is not a complete, technical discussion of fruit-growing, but has for its purpose the giving of helpful hints and plain directions to those who wish to succeed with the home orchard.

It is a well known fact that the home orchard—and a good one at that—should be on every southern farm. We know that this is not now the case. In fact, not one farm in ten has an up-to-date home orchard. Many people put out fruit trees and let them "knock" for themselves, and the result is disappointment. By following the simple suggestions given in this little book, anyone, it matters not how inexperienced he may be in fruit growing, can have a good home orchard.

We wish to make it clear that we have attempted in this book to discuss this proposition solely from the standpoint of the farmer who is interested in fruit-growing only to the extent of having a home orchard to supply the home with all the fresh fruits needed, and who, from time to time, markets the surplus fruit in the fresh form in nearby towns, either by taking it directly there in a truck, wagon or buggy, or by shipping it by express..

The Home Orchard Brings Many Benefits.—We wish right here and now to make a plea for the home orchard. No home or farm, where there is available space for a home orchard, is anything like complete without one. It has been proven again and again that those who consume a liberal supply of fruits and vegetables have far less sickness than those who consume few, if any, fruits and vegetables, but eat heavily of meats.

And then it is the absolute right of every person living on a farm—both old and young (especially the young) to have an abundance of fruits. The farm boy or girl who cannot get plenty of peaches, apples, plums, grapes, etc., is denied a needed pleasure. All of these can be grown so easily and with such little expense that it is an injustice to the farm family not to grow them.

After reading this little book any person of ordinary intelligence can succeed with a home orchard if he will just follow the instructions given. If you are one of those who has been doing without fruit, make up your mind right now not to continue in this class.

L. A. NIVEN.

December, 1920.

CHAPTER I.

PLAN OF THE ORCHARD.

The very first thing to do after deciding to set out an orchard is to make a careful plan of same. This should be done before it is even decided just where the orchard is to be located. First decide how much ground is to be given to the orchard; then decide how many trees of the different kinds of fruits are to be set; then figure the distance apart, between the rows and between the fruit trees in the rows, for the different kinds of fruits.

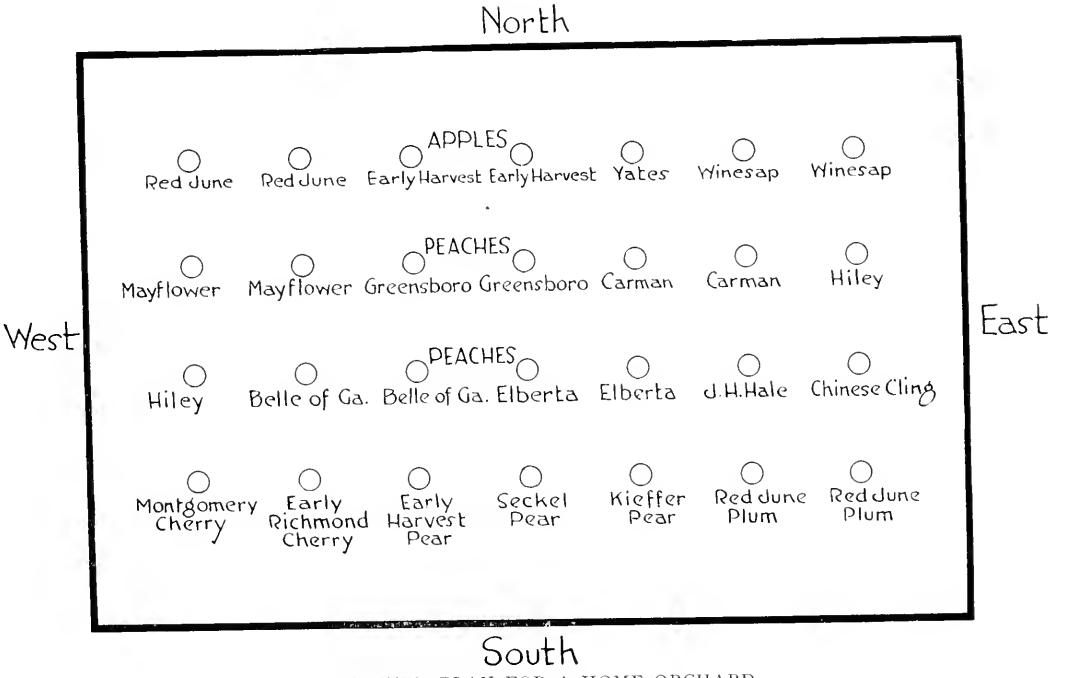
Make a Drawing of the Orchard.—It need not be drawn to scale, but can be drawn so as to serve the purpose satisfactorily merely by the use of a pencil and rule.

Draw a square block in the middle of the sheet of paper, making a double line—or a very heavy line—indicating the outer edges and the ends of the orchard. Then draw a line in the direction the rows are to run, making it a thin narrow line, with either pencil or pen and ink.

Then on these lines draw a circle indicating the place where each fruit tree is to be set. Of course, before drawing these circles you must decide just how many rows of the different kinds of fruits you are going to have, and decide the distance apart, so as to place the circle in the right place.

How to Distinguish Varieties.

Such a plan as this can be drawn up very quickly, and by writing under each circle the name of the variety of each fruit it will be easy to determine just what variety each tree is, and this knowledge may prove very desirable at some time in the future. Those who are not experts in the matter cannot always tell the variety of peaches, apples, etc., by the fruit itself, and by referring to this little map-plan will enable one to tell what variety any particular tree is.



SUGGESTED PLAN FOR A HOME ORCHARD

No effort was made to list in this plan the proper varieties for a home orchard. It is intended only as an outline as to how to draw up a plan of a home orchard.

Draw Up Plan.—Of course, each side of the orchard plan should be labeled according to direction, that is, east, west, north or south.

Some may deem this needless work, but we have had enough experience in the setting of small home orchards to know that this is not only not a needless piece of work, but highly desirable. It does not require much work and thought to draw up such a plan and to properly label it. Therefore, we earnestly recommend that everyone setting a home orchard draw up one of these plans.

CHAPTER II.

THE SITE OR LOCATION OF THE ORCHARD.

The site or location of the orchard is extremely important. Careful thought should be given to this phase of the matter before the fruit trees are even ordered. Study every available piece of ground on your farm and decide which is the best place, all conditions being considered.

Give Careful Consideration to the Fertility of the Soil.—One thing that we should like to emphasize: Don't pick out a poor piece of ground for the home orchard. In the cotton belt we believe one of the best methods of determining how rich a piece of ground should be selected for the orchard is to say that the orchard shall be put on a piece of ground that will produce not less than a bale of cotton per acre when properly fertilized and well cultivated. In that part of the South above the cotton belt we believe a piece of ground that will produce at least 35 to 40 bushels of corn per acre should be selected. This, of course, is looking at it from the standpoint of soil fertility alone. But we want to emphasize this particular point, because fruit trees are plants just the same as corn or cotton, and to do the best they must be planted on soil that is reasonably fertile.

Of course, the home orchard should be as near the house as possible. Still, it should not be put right near, unless the right kind of soil can be found there.

Ground Must Be Well Drained.

Select Site With Natural Drainage.—The ground where the orchard is to be set must be well drained. It is a well known fact that peach trees cannot stand "wet feet," and apple trees and all other kinds of fruit trees are not much different in this respect. Therefore, after picking out a piece of ground that is rich enough, we must consider

whether or not it is well drained, and if it is not well drained, drainage must be provided if we would succeed with the orchard.

Drainage of Air Is Also Important.—Not only must the piece of ground selected be well drained as far as draining of water is concerned, but the air-drainage must be good. It is a well known fact that cold air is heavier than warm air, and therefore the cold air settles to the lowest places. This is why one very often sees early spring frost in the branch bottoms and other low places while no frost appears up on the edge or top of the hill.

When to Plant on Level Ground.—Of course, in any section where the land is all level and there are no high places, then, of necessity one must plant the fruit trees on level ground. When this is the case the proper thing to do is to carefully select the best location with reference to soil drainage and air drainage; because it is an inexorable law that cold air is heavier than warm air and must settle to the lowest places. Therefore, on cold nights the cold air will invariably be found in the lower spots and the warmer air on the higher places. If these points are kept in mind in selecting the location for the home orchard, there is little doubt but that the average person can select the best place on the farm for the orchard.

The planting of trees in such low places may very well mean the difference between a crop of fruit and no fruit at all. Therefore, it is highly important that in selecting the site or location, one should give serious consideration to this phase of the matter. We should not put the fruit trees down in a low place, even though that low place may be fairly well drained as far as the draining off of the water is concerned. It may be accepted as a fact that the lowest places are not well drained as far as air drainage is concerned, and the setting of an orchard in such a place is inviting the loss of a number of crops of fruit that would not be lost if the trees were planted on a hill.

Plant Trees on High Ground.—From this discussion it can very well be seen that seldom if ever should one plant fruit trees anywhere other than on a high spot of ground, provided one is not in a section that is all level. Usually the house and barn are on the highest spots, and this will naturally throw the orchard right near the house. However, in many instances the house and barns are on low spots on the farm, and in such cases by all means put the orchard a good distance away from the house if this is necessary in order to get it on a high spot.

Select Soil That Roots Can Penetrate Easily.—While the fertility of the soil and the drainage, with reference to both water and air, are very important points, it is also important to consider the type of soil. On many pieces of ground we find the hard pan so very hard as to make it almost impossible for the young fruit trees to force their roots through it. Then, in other places we find solid rock within a foot or two of the surface of the ground. Of course, fruit trees should not be planted in such places as these, because the roots must go quite deep into the soil if the trees are to grow and flourish for years to come. Therefore, one should satisfy himself at least that the place where the orchard is to be planted is not underlaid with solid rock as near as two or three feet of the surface of the soil.

Clay Subsoil Desirable.

Best Soil For Fruit Trees.—A soil with a clay subsoil is very desirable, but this should be at least a foot or more below the surface of the ground, if possible. Very loose soil, either sandy or gravelly, is not so desirable as the more or less compact soil with a clay subsoil. By this we do not mean that a hard soil is desirable, nor do we mean to say that a sandy soil or gravelly soil will not do fairly well; but we do mean that a soil which is compact and which has a clay subsoil is usually the most satisfactory. The subsoil should not be too hard, but open and porous enough to allow water to soak through and to allow the roots to pene-

trate the soil without any undue effort. One who has had experience in farming will be able to pick out the kind of soil that will be best by following these suggestions.

Location of Utmost Importance.—We emphasize the absolute necessity of carefully considering the location of the orchard, because one little mistake with reference to this matter will often mean the difference between a good home orchard and one that is no good at all. We have known many folks to set their home orchards in low places and the result would be magnificent trees—large, beautiful and handsome, but with a small amount of fruit, if any. Therefore, we repeat, put the home orchard on a high piece of ground, preferably near the house, but if it can't be had near the house, then some distance away.

CHAPTER III.

WHEN, WHERE AND HOW TO BUY FRUIT TREES.

Buy Trees From Reliable Nurseries Only.—The buying of fruit trees is of the utmost importance, and we would especially emphasize the point that it is undesirable to buy from any except nurseries known to be reliable. There are some who are rather careless in their methods of business. Ninety-eight per cent are honest, but watch out for that remaining two per cent.

There is an organization known as The American Association of Nurserymen which guarantees a square deal to every person purchasing fruit trees from any member of that association. Therefore, the safe thing to do is to buy only from some member of this association, or from some nurseryman whose reputation is personally known to the buyer. Of course, those who know some nurseryman and know that he is absolutely reliable, should have no hesitation in buying from him, whether or not he may be a member of The American Association of Nurserymen, but those who are not personally acquainted with some nurseryman, or at least know enough about him to know that his business methods are high-class, and that he will give an absolutely square deal, had better buy only from some nursery that is a member of The American Association of Nurserymen. The Southern Nurserymen's Association also has in its membership only those nurserymen who are known to be reliable.

Buy Fruit Trees Early.

Time to Buy Fruit Trees.—Now, as to the time when the trees should be bought. In the first place, they should be bought early enough in the season so that one may be reasonably sure of getting what he wants. Like every other commodity, fruit trees are sometimes scarce. Of course, we sometimes find a nurseryman overstocked, but that is not always the case. So in order to be safe, it is always

advisable to put in the order early in the season, preferably during September or October, with instructions to ship out at the most opportune time during late fall or winter.

The Kind of Trees Is Also Important.—Keep in mind that what you want to get is a high-class, well-bred and well-grown fruit tree. Buy it on this basis and not on the basis of how much cord wood it contains. We believe that entirely too many people who are not acquainted with the best methods of fruit culture, think that what they should do when buying fruit trees is to get the biggest tree possible. This is not the case; this is not the way to buy fruit trees, because the larger the tree, the more severe the shock when it is dug from the nursery row and transplanted to the orchard.

Buy Medium Size and Not Large Trees.

A small fruit tree that is well-grown, clean, straight and free of disease is worth far more than the two or three year old fruit tree. Of course, the nurseryman can supply you with what you want, and will try to do so, but what you need is the medium size, clean, well-grown fruit tree, and as said above, not one that is big enough to produce cord wood.

In the case of the peach tree, the one-year-old tree is what should be bought. By one-year-old, we mean a peach tree that is either one year old from the bud, or that was budded in June and dug up and sold the following winter. On the whole, we should say, tell the nurserymen that what you want is a medium size, well-grown tree rather than one of the older and larger trees that so many people often insist on having.

Buyers Are Protected.—It is required that all of the nurseries in the various states be inspected by the State Board of Entomology before they can ship trees. This is done in order to insure, as far as possible, that fruit trees will not be sent out that are infested with insect or fungous pests. The buyer of fruit trees is protected as much

as possible by the State Boards of Entomology, but in order to insure even further protection, be careful from whom you buy and be sure to buy only from those nurserymen in whose word you have confidence. And here again we get right back to this matter of buying from members of the American Association of Nurserymen, or Southern Nurserymen's Association because the rules of their own organization demand that a customer be given what he buys and in as nearly perfect condition as possible.

Buy Only From Nurserymen of Known Reputation.—We do not wish to become tiresome on this subject, but we cannot close this chapter without again warning those who would produce good, high-class fruit in the home orchard, to give very serious consideration to this matter of the kind of trees that are bought. Do not purchase from these "wild cat" agents who agree to set a certain number of fruit trees and come back and spray and prune them for five years, for so much money. In ninety-nine cases out of one hundred, agents who sell in this way are doing a crooked business, because reliable, up-to-date nurserymen do not sell fruit trees in this way. And, as a rule, the person who sells them this way will never be seen by those purchasing the fruit trees after the trees are paid for. There are good fruit tree agents; there are honest ones representing honest nurserymen, but they have credentials which will show that they have authority to represent these high-class nurserymen. Don't fool with these "flim-flam" agents who offer something that reliable nurserymen do not offer.

CHAPTER IV.

DESCRIPTION OF SOME LEADING VARIETIES OF APPLES AND PEACHES.

No attempt is made in this chapter to describe any large number of apples and peaches. Neither is there an effort made to go into a very technical description of the varieties, but we believe something about the size, flavor, keeping qualities, etc., should be helpful.

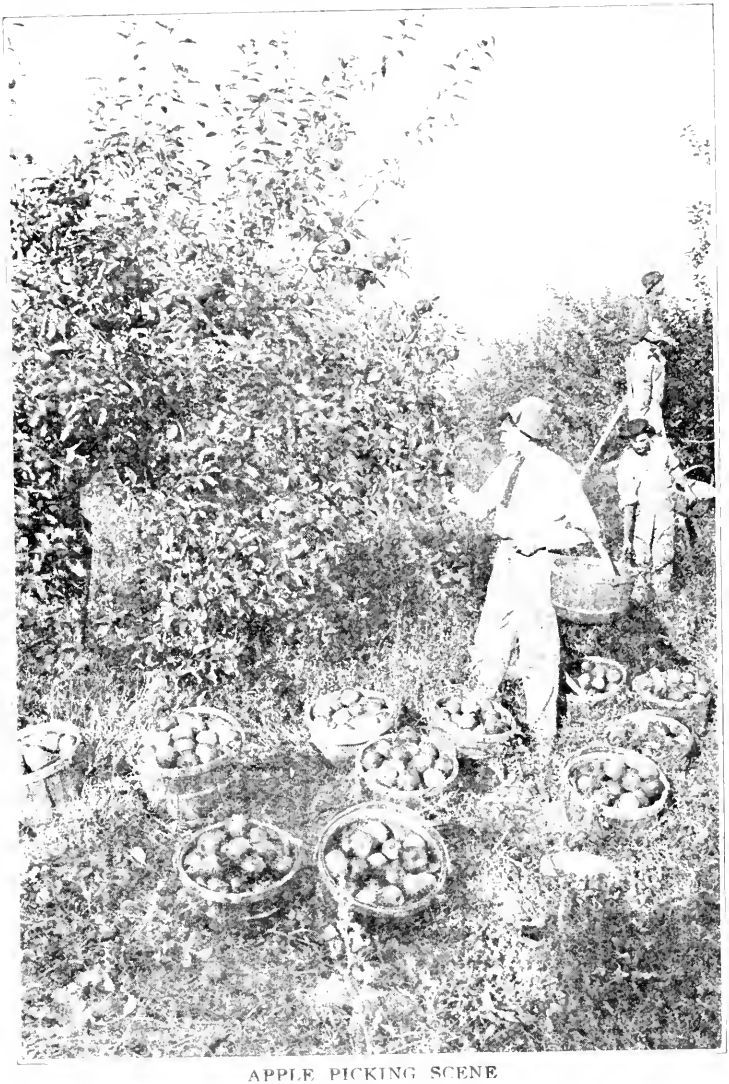
The following seven varieties of apples are probably those most commonly planted in the South: Early Harvest, Red June, Horse, Stayman Winesap, Mammoth Black Twig, Winesap and Yates. We shall therefore give brief descriptions of these seven varieties.

The *Early Harvest* is one of the old stand-bys for early apples. It is yellow and medium large. The flavor is most excellent, there being just enough acid in it to make it desirable from this standpoint. It bears as nearly every season, year in and year out, as almost any apple we know.

The *Red June* is one of the best known early apples throughout the South and, as its name indicates, usually ripens in June, although in the upper portions of the South, it may not ripen until July. It is not a round apple, but is more nearly oblong, and medium size. The quality is thoroughly good, and on account of its earliness and other good qualities, should be planted extensively in the South

The *Horse Apple* is one of the best known summer apples in many sections of the South. It is a large apple somewhat of a greenish yellow color and is very acid. It usually ripens from very late June through July and into August, and is a most excellent bearer and a good keeper.

The *Stayman Winesap* was developed from a seedling of the Winesap variety. The fruit is of excellent quality, and small or medium in size. It is red in color and is said to do better on poor soil and to produce a stronger tree than the parent—the Winesap. Like the Winesap, it is one of the very best apples.



APPLE PICKING SCENE

The *Mammoth Black Twig* is one of the largest varieties of apples grown in the South. The skin is a very deep red but the flesh is slightly yellowish. It is a very productive variety, an excellent keeper, and therefore a good commercial variety, as well as a good one for home use.

The *Winesap* is indeed one of the very best late varieties of apples for the South. It is medium in size, red in color, and a most excellent keeper. In quality, it is doubtful if any apple grown in the South exceeds it, and it is by all odds, one of the very best for the South.

The *Yates* is a small apple, but one of the surest and one of the heaviest bearers that we have. It is a red apple with little whitish dots all over it, and the flesh is yellow. It is an excellent keeping variety and the quality is good. Although this is a very small apple, it is one of the most dependable varieties that we have.

Description of Some of the Leading Varieties of Peaches.

The *Mayflower* is one of the best of the early peaches. The quality, however, is comparatively poor, as none of these very early varieties possess any real quality. This variety, however, colors up to a very red color and looks good. It is a good shipper and on account of ripening early, is a very desirable variety either for the home orchard or for those who are shipping to the local or distant markets. Although it is one of the earliest varieties we have, it is a late bloomer and therefore often produces a crop of fruit when some of the other varieties get killed. The merits of this variety are its earliness and hardiness.

The *Carman* is a large peach, ships well, and the flavor is good. On account of the tough skin it is considered one of the leading shipping varieties. The skin might be described as a creamy, whitish color. It is one of the earliest standard varieties, and in the central part of the South usually ripens right around June 15.

The *Early Belle* or *Hiley* is one of the leading commercial varieties of the South. It colors up quite well, is large and a creamy white. It is not only a good variety for shipping purposes, but it is an excellent variety for the home orchard. It ripens soon after the Carman.

The *Belle of Georgia* is one of the leading commercial varieties also, and is planted quite extensively. It is a very large peach, most attractive in appearance, possesses an excellent flavor, and in quality is second to no peach grown. It is a heavy bearer and might be considered one of the very best of the two or three leading varieties of peaches for the South, whether grown commercially or for the home orchard. It ripens just after the Hiley.

The *Elberta* is probably the king of all peaches. The quality is not altogether so good as some of the others, but on account of the large size, excellent keeping qualities and excellent shipping qualities, it is certainly one of the leading —if not the leading commercial variety. The flesh is yellowish in appearance and the skin is more or less yellow, with some red spread over it. It is an excellent variety for canning and for eating, even though the quality is not quite equal to the Hiley or Belle of Georgia. No home orchard is complete without some of these. They ripen in the middle part of the South right around July 15th and follow rather closely the Belle of Georgia.

A variety that ripens just a few days after the Elberta, and a comparatively new variety, is the *J. H. Hale*. It is a very large peach, larger than the Elberta, and many say that it possesses better quality and better flavor than the Elberta. The flesh is yellow. It ships well and is, all things considered, one of our leading varieties, even though it has not been known for many years and is not so well established as the Elberta, the Hiley, and the Belle of Georgia.

A variety that follows the Elberta rather closely in ripening is the *Chinese Kling*. This is a very large variety that is slightly yellow in color with red at the tips. It is a clingstone variety, it is quite juicy, and one of the best of the late varieties.

CHAPTER V.

TREATMENT OF TREES WHEN RECEIVED FROM NURSERY.

Set Trees Immediately After Arrival.—It is of the utmost importance that fruit trees be given the proper attention immediately after they are received from the nursery. Of course, the proper thing to do is to set them at once, but very often this cannot be done. The ground may be too wet; it may not be ready, or there are a number of other things which may make it almost impossible for one to set the fruit trees immediately after receiving them, and the purpose of this chapter is to outline briefly just what may be done in a case of this kind in order to prevent damage to the young trees.

In the first place, as soon as notice is received from the express office that the trees have arrived, go get them. Don't let them remain there for several days. Of course, when they are well packed they will keep several days in the package, but that is not the way to get the best results. Get the fruit trees, and immediately unpack them, because the roots are bound up tightly in the packing material and the sooner they are released from this material the better.

Moisten Roots When Trees Arrive.—If for any reason the fruit trees have been on the road a good long while and the packing material around the roots has dried out and the roots are more or less dry, then immediately after unwrapping put them in a puddle of water. It is better to put them in puddled water than in clear water, because the fine soil particles will cling to the roots and thereby help to hold more of the moisture on the roots. They should not be kept in this puddled water long, just a few minutes; just long enough for them to become thoroughly moistened.

The above treatment should be given whether or not the trees are to be set immediately, because the roots should never be allowed to dry out at any time. If they are not to be set immediately, they should be "heeled in," which is nothing more nor less than planting the trees in trenches.

How to "Heel In" Fruit Trees.—To properly "heel in" fruit trees, dig a trench rather wide and six to ten inches deep. Place the roots of the trees in the trench so that the trees will be in at an agle of about 30 to 35 degrees. It is better to put them in this way than to set them straight up, but of course if one wishes to dig a deep enough and wide enough trench they may be set up straight. But that is not the usual method of "heeling in."

"HEELING IN" FRUIT TREES

After the trees are properly placed in the trench, throw the dirt in on the roots and pack the soil lightly. It should be packed sufficiently to hold the moisture around the roots. By "heeling in" the fruit trees in this way, they can be kept several weeks during the winter time without material damage resulting. It should be kept in mind, however, that, other conditions being equal, it is always best to set the fruit trees immediately after they are received.

Proper Method Handling Fruit Trees.

Don't Expose Roots to Sunshine.—In setting the fruit trees, be careful not to allow the roots to be exposed to the

sunshine. We have seen many folks in planting fruit trees go ahead and dig the holes and leave the fruit tree roots exposed to sunshine and air a half day, or even a day or two, before the trees were set. This is inviting disaster; don't do it. Don't put the fruit trees where the roots will be exposed to sunshine even for ten minutes before they are to be set.

A good method is to put the fruit trees in a barrel or bucket of water and keep them there until ready to set. Of course, they should not be put in water any greater length of time before setting than is necessary, and it is better to use the puddled water, or dirty water, than it is to use clear water, for the reasons mentioned in the first part of this chapter.

Never Let Roots Become Dry.—The point to keep in mind is that fruit tree roots should never be allowed to dry out. More fruit trees die from this trouble when being set than probably all others combined, especially when the planting is done by inexperienced persons. It is comparatively easy to get a fruit tree to live if it is properly set and the roots have not been allowed to dry out. But if the roots have been allowed to dry out, then it is a mighty hard job to get any reasonable number of the trees to survive. We cannot emphasize this point too strongly that the roots should not be allowed to dry out, and keep in mind that the nurserymen usually deliver these trees to you with the roots in good shape and moist, and it is up to you to see that they are not allowed to dry out from the time you receive them until they are set.

Trees are more or less like a fish in that they cannot live very long if kept away from moisture. Take a fish out of water and it soon dies; keep the fruit tree roots exposed to air and sunshine for a little while and they will die also. Therefore, mark it down that you must keep the roots moist and not let them dry out if you would succeed in transplanting fruit trees and have a good percentage of them live.

CHAPTER VI.

SETTING FRUIT TREES.

Lay Off Orchard in Rows.—The first thing to do when ready to set fruit trees is to stake off the field, or lay off the rows by whatever method seems best. It is highly important to have the fruit trees in straight rows, and they should be straight in every direction. In other words, they should check row. Of course, fruit trees in straight rows will not produce any more fruit than will trees set in crooked rows, but an orchard where the fruit trees are all in straight rows looks so very much better, that it is worth while to put them in straight rows.

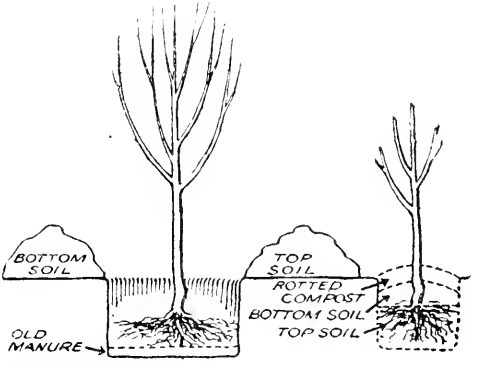
Of course, where one is planting a home orchard and different kinds of fruit are planted in the same field, and naturally some farther apart than others, it is impossible to check row them and have them in straight rows in every direction. But one can put them in straight rows in one direction, and this should be done.

Of course, peach trees will be one distance, apple trees another, and so on down the line. This would make it impossible, as said above, to get them in straight rows in all directions, but where one is planting, say half an acre or more of one fruit, then the trees can be put in straight rows so they will check row and be straight in every direction that one may look.

Put Trees in Straight Rows.—We wish to urge that those planting the home orchard give some attention to this matter, because fruit trees in a crooked row do not look half so well as when in a straight row. It is all a matter of looks, but then it is worth while and it costs but little effort to get them in straight rows.

We shall not attempt to give any of the methods of setting the fruit trees in straight rows, except to mention the stake method, which is so commonly used. This is nothing more nor less than starting on one side of the field with a high stake where the first fruit tree is to be planted.

Then put two or three other high stakes down the row and in line, so as to get them exactly in a straight row, and then set small stakes where each fruit tree is to go. Still others who are good at laying off straight rows with the plow can place them in this way and get them in almost exactly a straight line.



The above illustrates a good method of setting fruit trees. Also note that the tree at the right is the same tree as the one at the left, the only difference being that it has been set and properly headed back.

DIGGING THE HOLES.

Method of Digging Holes.—It is false economy to dig holes that will not allow the roots plenty of space. Dig the hole wide in order that the longest roots may be spread out in their natural position, and then not reach the edge of the hole. Also dig deep enough so that three or four inches of loose soil or well rotted manure may be put in the bottom of the hole for the roots to rest on. This is far better than putting the fruit tree roots down in the bottom of the hole resting on hard, compact soil.

Where the subsoil is clay and very hard, dynamiting the hole will prove of value. A stick of dynamite put two or three feet below the surface of the soil right where the tree

is to be planted and exploded, will serve to crack up the subsoil and enable the young tree to grow off to better advantage.

But whatever method one adopts to dig the holes, be sure they are dug deep enough and wide enough to permit the setting of the roots in their natural position. They cannot and must not be put in the hole in a wad if one would succeed in having a majority of the trees live.

Don't Carry Trees to Orchard Until Ready to Set.—One should not carry any of the fruit trees to the orchard until the actual time of setting, because if this is done the roots will be exposed to the air and sunshine, and as said in a previous chapter, this absolutely must be avoided if one would succeed in having most of the trees live.

Take the whole bunch of trees to the orchard after the holes are dug and you are ready to set the trees and put the roots in a puddle of water; then take a few at a time and put them along in the holes where they are to be set, and if they are liable to be exposed to the air and sunshine for a half hour, throw a little dirt on them. This may sound like a lot of trouble, but it is well worth while, because we must keep in mind that if the roots are once allowed to dry out, it is "goodbye" fruit trees.

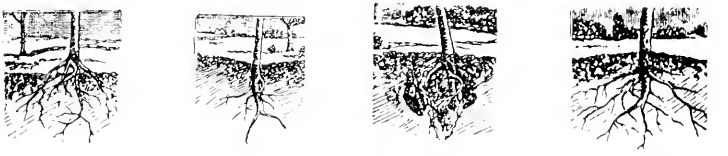
Prune the Roots of Trees.—Before setting the trees, the roots should be pruned. Cut off all dead or injured roots. Where a root is broken or mashed, it should be cut off. Make a smooth cut and a sloping one, instead of cutting straight across. Also cut back any of the roots that may be unusually long. We often see a fruit tree with an abundant root system, but with two or three roots considerably longer than the others. Cut these back so as to conform approximately to the length of the main root system. All of the fibrous roots should be cut off, because they are either dead, or soon will be, and cannot do any further good.

PROPER WAY TO SET FRUIT TREES.

Pack Soil Tightly About the Roots.—Now, when ready to set the fruit trees, put a shovel or two of soil or well rotted manure in the bottom of the hole and tamp, either with the foot or a tamper. Put the tree in the hole, letting it stand exactly straight up, and do not have it leaning to one side or the other. Throw in the soil, a few shovelfuls at a time, taking care to put in the top soil around the roots and not the clay soil that was thrown out from the bottom of the hole, and remember it is important to pack it tightly around the roots. One can use the feet for packing, but the end of a scantling, or other form of tamper, will usually be more satisfactory and less trouble to handle. Don't pile in a big pile of dirt and then pack good and hard, but put in just a few shovelfuls at a time; pack thoroughly and then add a few more shovelfuls and keep on in that way until the hole is full.

After all of the roots are covered with soil and the soil is thoroughly tamped, then fill in the hole and pack less tightly than the soil was packed around the roots. Of course, it should be fairly well packed right on up to the surface of the ground.

At the best, the soil is going to settle some, because it is almost impossible to pack it as tightly as it was before the hole was dug, and therefore, one should pile the soil up from two to three or four inches above the surface of the ground, leaving the top inch or two of soil loose. If the weather is dry it is a good plan to mulch the newly set trees with manure, hay, grass, or other similar material.



Showing the right and the wrong way of setting fruit trees. On the left the tree is not set deep enough, and the second one from the left is set too deep. The third one from the left shows the bad effects of bunching up the roots and setting the tree in too small a hole. At the right the tree is properly set as to depth and the way the roots are spread out.

Depth to Set Trees.—The fruit trees should be set, as a rule, about one and a half to two inches deeper than they were in the nursery row. One can tell by looking at them how deep they were in the nursery row, and should keep this point in mind.

While setting the tree, watch it every now and then to see that it is setting up straight and not leaning to one side or the other.

By following carefully the directions that have been given in this chapter as to how to set fruit trees, and studying the illustrations, there is no reason why anyone should not be able to have the majority of the trees live. Some of the things that we have recommended may sound unnecessary to some folks, but we assure you that they are not unnecessary. It is the attention to all of these little points that will mean the difference between having nearly all the trees live and a good many of them die. A fruit tree is something to last for many years, and one cannot be too particular at the time of setting to set properly and get them started off to the very best possible advantage.

Distances For Planting Fruit Trees.

Apples	30 to 40 feet apart each way
Cherries	20 " " " "
Plums and Peaches	16 to 20 " " " "
Dwarf Pears	10 to 12 " " " "
Dwarf Apples	10 to 12 " " " "
Grapes	8 to 10 " " " "
Raspberries, Blackberries and Dewberries	3 to 4 ft. by 5 to 7 ft. apart
Strawberries, for field culture	1½ to 3½ feet by 3 to 4 feet apart
Strawberries, for garden culture	1 to 2 feet apart

Number of Trees on an Acre.

30 feet apart each way	50	10 feet apart each way	435
25 feet apart each way	70	8 feet apart each way	680
20 feet apart each way	110	6 feet apart each way	1,210
18 feet apart each way	135	5 feet apart each way	1,745
15 feet apart each way	205	4 feet apart each way	2,725
12 feet apart each way	300	3 feet apart each way	4,840

Rule.—Multiply the distance in feet between the rows by the distance the plants are apart in the rows, and the product will be the number of square feet for each plant or hill; which, divided into the number of feet in an acre (43,566), will give the number of plants or trees to the acre.

CHAPTER VII.

HEADING BACK FRUIT TREES AT TIME OF SETTING.

How to "Head Back" Fruit Trees.—Too often people set fruit trees and allow them to grow in the natural form. This is not the best thing to do. A fruit tree should have what is known as an "open center," with the branches spreading out. If the trees are not headed back at the time of setting, or soon thereafter, they will grow in the natural shape—that is to say, upright, with the main stems in the center—and will grow entirely too tall. Keep in mind that what is wanted is the "open center" with no main stem, but with three to five main branches coming out from several sides of the tree.

Don't let anyone try to make you believe that you will injure your fruit trees by cutting out the top at the time of setting. We know some people have this idea, and that they think the proper thing to do is let a fruit tree grow in its natural shape. This is not the case, because if it is not headed back it will run up and become a slender, tall-growing tree that will produce far less fruit than would be produced if it were headed back and pruned.

Cut Out Top of Tree Immediately After Setting.—Therefore, cut out the top immediately after planting. The height above the ground at which to make this cut depends on the kind of fruit, size of tree, etc.

As a general rule, however, peach trees should be headed back to within 14 to 20 inches of the surface of the ground. Some head them back as high as 24 inches, but we think from 14 to 20 inches is about right.

With apples, the cuts should be made slightly higher from the ground, and the proper height is from 20 to 24 or 28 inches. Some head the apple trees back as much as 32 inches above the surface of the ground, but an average of 20 to 24 inches is about right.

"Heading back" is nothing more nor less than cutting out the top. This cut should be a slanting cut and not square across. Make the cut just as smoothly as possible and not more than a quarter of an inch above a good live bud.

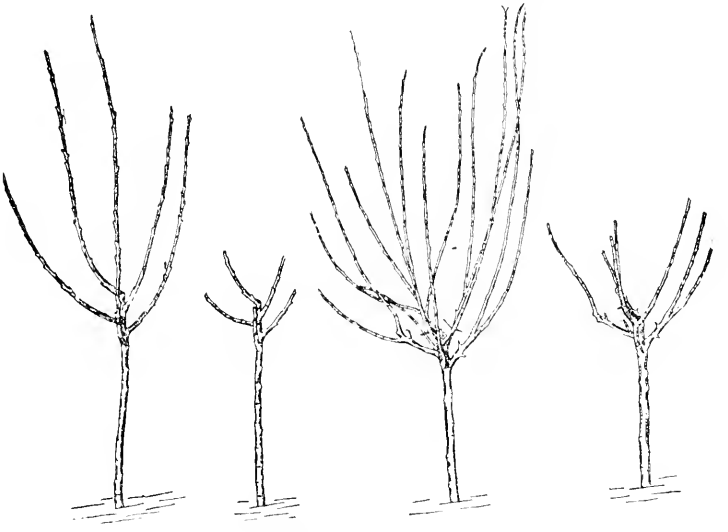
Nurserymen Will "Head Back" Trees.—Those who do not clearly understand just how to head back the peach, apple and other fruit trees can have a sample of this work done by the nurseryman from whom the trees are bought. Nurserymen will usually head back one tree of each kind as a guide for those customers who request that this be done. Anyone buying fruit trees and not being certain as to how to do the work, will probably find it advisable to request the nurseryman to do this before shipping the trees.

There is very little real work attached to this "heading back" process, but the important point is "knowing how to do it." We believe by carefully studying our discussion on this subject and the illustrations showing how to head back fruit trees, and having the nurseryman head back one before shipping, anyone can do the work.

The two illustrations to the left show "the before and after" of pruning a newly set two year old apple tree. The two at the right show a newly set one year old peach tree, before and after pruning. These two illustrations show exactly how to prune both large and small fruit trees immediately after setting. A small apple tree should be pruned just like the peach tree shown above.

PRUNING NEWLY SET FRUIT TREES.

How to Prune Peach Trees.—In the case of the peach, especially when a one-year old is being planted—and this is as old a peach as should be planted as a rule—all of the side branches should be trimmed off and everything that will be left after it is headed back and the side branches trimmed



BEFORE AND AFTER PRUNING

The two illustrations at the left are newly set fruit trees (comparatively large) before and after pruning. The two at the right represent the same tree after one year's growth has taken place and the pruning has been done.

off is just a little whip from 14 to 20 inches long. Now, don't become alarmed and think you have ruined your peach trees if you do this, because you haven't. Of course, if you should happen to be setting a two-year old peach tree, or one that is especially large and has well formed branches,

then cut out the top just as outlined above, and select three to five branches that are to remain, and head them back to within, say, four to six inches of the main trunk of the tree.

How to Prune Apple Trees.—When setting apples, where the two-year old tree is often used, it may be desirable to leave the branches rather than to trim them all off and depend on selecting the main branches from the next year's growth. In case these are not all trimmed off, select (as in the case of the peach) three to five of the best located branches for the main body of the tree. These should be headed back, say, within five to six or seven inches of the trunk of the tree. Of course, when heading back the branches, take the same precaution of cutting just above the bud and with a slanting, smooth slope as when cutting out the top.

Select Main Branches With Care.

In selecting these three to five branches for the main body of the tree, be careful to have them properly distributed around the trunk of the tree and not directly opposite each other. Say if one branch on one side is just 12 inches above the surface of the ground, let the next one opposite be either 10 or 14 inches, etc. If these branches are directly opposite each other, or all coming from the trunk of the tree near the same place, the tree will be more liable to split than if they were scattered up and down the trunk within a space of 6, 8 or 10 inches. This is a point that should be given careful attention, because it may very well mean the difference between a tree that will withstand heavy winds and heavy crops and one that will be ruined by them.

Tree Takes Permanent Shape During First Year.—Too much attention cannot be given to: first, the proper heading back, and second, the placing of the branches around the

trunk of the tree; because it is the first year that a tree takes on more or less of its permanent shape. It can be pruned so as to conform to almost any desired shape during the first or second year, but if not started in the right form immediately after planting, then, neglect at this time cannot be made up for completely in the future. The pruning of the fruit trees after the year in which they are set out will be discussed in the following chapter.

CHAPTER VIII.

CULTIVATING THE ORCHARD.

Thorough and Frequent Cultivation Necessary.—Whether the orchard is a large or small one, it may just as well be accepted as a fact that to succeed with it, cultivation, and very frequent cultivation at that, must be resorted to. There seems to be a common opinion among many folks that because apples, peaches, plums, pears, etc., grow in the form of trees, they do not need cultivation. This is a mistaken idea and one that will invariably result in poor, inferior fruit, if adopted. Trees are just as truly plants as are cotton, corn, tobacco, etc., and while they grow over a longer period of time, cultivation is just as necessary in order for them to succeed to the maximum extent as it is for the annual plants, like those mentioned above. Therefore, let all who have fruit trees—though the number may be small—make up their minds once and for all that thorough and frequent cultivation must be given if good results are to be secured.

Cultivated Crops May Be Planted Between the Rows of Trees.—When the orchard is young, that is, during the first few years after the trees are set out, it is entirely feasible and practicable to plant some cultivated crops in between the rows of trees. In doing this, however, one should be careful not to plant the crops too close to the trees. Never plant a cultivated crop, or any other crop, close enough to the trees, so that when cultivating the single-tree will come close enough to knock off the bark. The trees should not be touched by the single-tree or bent about. Put the nearest row of cultivated crops sufficiently far away from the trees to make certain that no single-tree will come into contact with them.

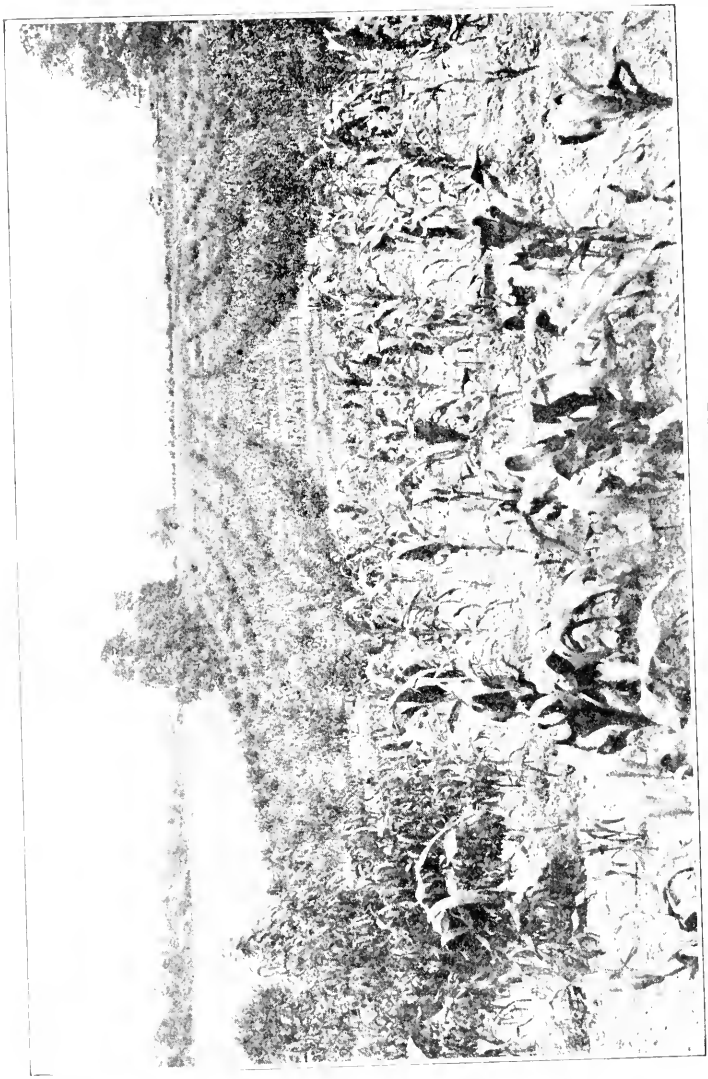
Crops to Plant in Orchard.

Leguminous Crops Desirable.—There are certain crops that should never be planted in an orchard, no matter how

young the trees may be, and among these are some of the rapid growing plants like corn. Neither should small grain be sown in the orchard, unless the grain is to be chopped to pieces and turned under before it starts to run up early in the spring.

Keep Oats Out of Orchard.—Oats is one of the most unsatisfactory crops that can be planted in an orchard, unless the crop is cut to pieces and disked under just about the time it begins to stool out. Sorghum cane is another crop that should, under no conditions, be planted in an orchard. It draws very heavily on the land, especially the moisture, and grows high, like corn, and shades the fruit trees and will do them untold harm. Therefore, do not plant any such crops in the orchard, but use the low-growing crops that draw as lightly on the soil fertility as possible, such as cow peas, soy beans, Irish potatoes, snap beans, various truck crops, etc.

Plant Crops That Require Frequent Cultivation.—In selecting the crop that is to be grown between the young fruit trees, be sure to select one that will require considerable cultivation and heavy fertilization. This should be done because of the fact that it will bring about ideal conditions for the fruit trees. By using a large amount of commercial fertilizer and by giving frequent cultivation to the crop that is growing in between the trees, there will be sufficient plant food to cause the trees to grow rapidly and cultivation will be frequent enough to serve this purpose. It is entirely possible to grow between the fruit trees, for the first two years, a sufficient amount of various kinds of crops to more than pay the cost of the cultivation and the care of the orchard, but the general principle should be kept in mind that no crop that is tall-growing, a rank feeder, and that uses a large amount of water, should be planted; and as said above, oats, corn, wheat, sorghum cane and such crops as these come under this head.



YOUNG PEACH ORCHARD
Corn Between the Rows

MANY PREFER NOT TO PLANT ANY CROP IN ORCHARD.

Cultivate As You Would Field Crops.—A great many prefer not to plant any cultivated crop in the orchard even while it is young, but to give the entire ground to the growth of the young trees. There is no doubt but that this is the best way to secure the maximum results in the shortest time with the fruit trees, but when this method is adopted, make up your mind right now to treat these fruit trees as though they were any other annual growing crop. Commence the cultivation early in the spring, and continue until well beyond mid-summer. The cultivation should be comparatively shallow because the feed roots of the trees grow near the surface of the ground in order to get as much plant food as possible, and deep cultivation will invariably do considerable harm by breaking off these roots.

Cultivate to Prevent Crust Forming on Surface.—It should be kept in mind that most of the available plant food is up near the surface of the ground, and the feed-roots will naturally find their way to this place. Thus, it can be clearly seen why it is important that the cultivation be shallow. Of course, when the first cultivation is given in early spring, it may be a little bit deeper than it is a little later on. The usual method followed is to plow broadcast early in the spring with a shallow turning plow. The cultivation following this should be frequent and shallow, using the most convenient kind of harrow or cultivator that may be available. The results desired are to keep down the weeds and grass and prevent a crust from forming on the surface of the ground.

WHEN AND HOW TO CULTIVATE.

Shallow Cultivation Brings Best Results.—Cultivation during the spring and summer should be frequent enough to keep the soil in good condition. A good general rule is to cultivate the orchard in the same general way that you would some truck crop. Usually, this should be given once

every week to ten days, and sometimes more often. It is only by giving the very best of attention in the way of cultivation that the desired results can be secured, and those who persist in feeling that a fruit tree is a tree that can "knock" for itself and does not need cultivation, may just as well make up their minds that they are not going to succeed with the home orchard. Of course, it is possible to grow fruit without cultivating the trees, but it is not possible to grow either the maximum quantity, or the best quality, or the most profitable crops of fruit, unless frequent and shallow cultivation is given.

As said above, it does not amount to so much as to what implement is used in giving this cultivation, just so long as the desired results are obtained, namely, the keeping down of the weeds and grass and preventing the formation of a crust on the surface of the soil.

CHAPTER IX.

FERTILIZING FRUIT TREES.

Use Commercial Fertilizer.—In ninety-nine cases out of a hundred it will be found profitable to give an annual application of commercial fertilizer to fruit trees and an occasional application of stable manure, say once every three to five years. If the ground on which the fruit trees are growing is already quite rich, then an application of stable manure will not be needed so often, but if it is poor, or medium poor, an application of manure every year, or until the trees are well started, will be profitable. In applying this, it will be desirable to scatter it broadcast and build up the fertility of the land, not only immediately around the trees, but of the whole surface.

Use Stable Manure Also.—In addition to building up the soil by application of stable manure, one can use to advantage the scrapings from the fence corners about the lot, yard, etc. Just scrape up and scatter broadcast in the orchard any time during the winter, and plow under at the first plowing in the spring. On the average farm where only a small orchard of a few acres is to be fertilized this way, there will be plenty of scrapings from about the house, wood shed, barn, etc., to keep the orchard in good condition.

Manuring the Orchard.

Grow Leguminous Crops in Orchard.—In addition to applying stable manure, scrapings, etc., to the orchard, the general fertility of the soil can be added to, and should be added to, by growing both summer and winter legumes in the orchard. By cultivating the orchard until mid-summer, say until late June or early July, and then planting cowpeas or soy beans, much fertility will be added to the soil by these crops. After they are harvested in the fall, sow down to some kind of clover, either crimson (or in some sections red clover), and let these grow during the winter.

Then turn under in early spring. By practicing this method a few years, the general fertility of the soil will be very greatly enhanced, especially in nitrogen, which is the most costly form of fertilizer.

Small Grain Crops Prevent Leaching of Plant Food.—It is very desirable to have something growing in the orchard during the winter, and in case you are among those who think you cannot grow any of the clovers, then go ahead and plant some of the fall grain crops, such as wheat, oats, or rye in the early fall, taking special pains to see that these are thoroughly chopped to pieces early in the spring by a disk harrow, and turned under. While the small grain crops will not add so much fertility to the soil as clovers, yet they will make use of considerable plant food that will otherwise be leached out during the winter, and will store it up for future use of the fruit trees.

Kinds of Commercial Fertilizer to Use.

Much Nitrogen Needed.—If the orchard has been liberally fertilized with stable manure, etc., as outlined above, then a commercial fertilizer with a comparatively small amount of nitrogen and with a comparatively large amount of phosphoric acid and potash should be used. In a case of this kind, we should say that a fertilizer analyzing around 10-1-4 would be about right. However, if the ground is not rich in nitrogen, then considerably more nitrogen should be had in the commercial fertilizer, and one analyzing around 10-4-4, or 10-3-4, would be about right.

Top Dress in Spring.—In addition to giving a liberal application of the complete fertilizer early in the spring, an application of nitrate of soda or sulphate of ammonia given in late spring, just as growth is becoming rapid, will prove highly desirable and profitable as a rule.

Time to Apply Fertilizer.—The proper time to apply the complete commercial fertilizer is very early in the spring when the first cultivation is given. This should be usually

about the time the buds begin to swell in the spring. Use this commercial fertilizer by scattering it broadcast around the tree and cultivating it in. Don't try to scatter it over the whole ground, but merely in a circle about the tree, commencing from two to six or eight feet from the base of the trunk of the tree, depending on size of tree, and scattering it outward to a distance of several feet beyond the spread of the branches.

Where to Apply Fertilizer.—Keep in mind that the feed roots of the fruit trees are not right near the base of the trunk of the tree, and it is only wasting the fertilizer to put it there. Scatter it in this circle, going out several feet beyond the spread of the branches; cultivate it in and you will have it where it will do the most good. Of course, the larger the tree, the greater the distance beyond the spread of the branches the fertilizer should be applied.

Amount of Fertilizer to Use.

Fertilizer Needed Varies With Age of Trees.—Usually a pound and a half or two pounds of commercial fertilizer will be enough to apply to each tree annually during the first two years. It should be gradually increased until five, six, or eight to ten pounds to the tree are given the older and larger trees. In addition to this, nitrate of soda or sulphate of ammonia given later in the spring should be applied at, say, about one-fourth or one-fifth the rate of the amount of the complete commercial fertilizer. The fertilizer given to the young fruit trees before they reach the bearing age should contain a heavy proportion of nitrogen and a limited amount of phosphoric acid and potash. Then as the fruit trees commence bearing, as a rule it will pay well to decrease the proportion of nitrogen and increase the proportion of phosphoric acid and potash.

Change Proportion As Trees Mature.—Roughly speaking, while the trees are young and before they reach the bearing age, the fertilizer containing, say only 5 or 6 per

cent of phosphoric acid and 1 or 2 per cent of potash, and 6 or 7 per cent of nitrogen should be used, because it is at this time that the principal thing desired is growth in the trees; and because of the fact that nitrogen is the part of the fertilizer that produces the growth, this substance should naturally predominate. Also, when the tree reaches the bearing age, it is equally important to reduce the amount of nitrogen in order to prevent too rapid growth and to increase the amount of phosphoric acid and potash, in order to produce the proper amount of fruit, give it the right color, etc.

Anyone who will give a little careful study to the subject can fertilize fruit trees in such manner as to greatly enhance the value of the home orchard.

CHAPTER X.

PECAN GROWING IN THE SOUTH.

Never Plant Seedling Pecans—The one thing that should be remembered about pecan growing above all others is, that the seedling trees should not be planted, but the budded or grafted varieties should always be used. The seedlings will almost invariably produce small, inferior nuts. And then, too, the seedling tree does not usually bear until it is from twelve to fifteen, or in many instances twenty years of age; whereas, the grafted or budded varieties will, under good conditions, bear from three to five years after the trees are set out. Therefore, we wish to emphasize this point above all others. Don't let anyone tell you that the thing to do is to plant seedling pecans, because that is absolutely wrong.

Pecans Should Have Well Drained Soil.—Pecans will succeed in the South almost anywhere that cotton will grow well. It is true that the very best results are secured on the Coastal Plains; yet, it is equally true that excellent results have been secured from these budded or grafted varieties of pecans in almost all sections of the cotton belt. The pecan loves a moist soil, and yet it absolutely demands a soil that is fairly well drained. There are some varieties, of course, that will grow fairly well in bottom land that is overflowed, but if it is land that is water sogged at all times, then, it is very seldom that the pecan will succeed in a big way.

Few Trees Will Supply the Home Need.—We believe that every person in the cotton belt, especially those in the lower section, should plant a few pecan trees in connection with the home orchard. As a rule, these should be set from 50 to 60 feet apart, and it will take only a comparatively small number of trees to produce all that a family will need and to supply the local market in a limited way. If the trees are set 50 feet apart with the first and the last row only 15 feet from the edge of the field, then, only 80 trees

would be required to set five acres. The further fact that the pecan trees will not take up all of the ground for several years, makes it all the more important that at least an acre or two be planted on every southern farm; at least those in two-thirds of the lower cotton belt.

Plant Cultivated Crops Between Pecan Trees.—Pecan trees should never be planted closer than 50 feet apart, according to our way of looking at it. Of course, there is no need to let them utilize all the ground while young, but one can go ahead and plant any of the cultivated crops in between the trees, or figs, plums, grapes, peaches, etc., can be planted in between the pecans. Our preference, however, is that some of the cultivated crops, like cotton, cabbage, beans, soy beans, etc., be planted in between the pecan trees; because in this way fairly clean cultivation will be given and a reasonable amount of fertilization will also be given. When planting this way, however, one should leave a strip of a few feet for each row of pecans in order to give them the better show. In other words, let the nearest row of the cultivated crop be three or four feet from the line of trees.

How to Transplant the Trees.—The pecan is a little more difficult to transplant and make live than many of the other fruit trees, and therefore very great precaution should be used when ordering fruit trees from a nurseryman. The precaution, of course, comes in properly handling the trees immediately after they are received. The roots must not be allowed to dry out, because it means almost sure death for the trees if this is allowed to take place. Of course, the drying out of the roots of any fruit tree is very bad for them, but it is worse with the pecan than almost any other fruit or nut tree. Therefore, very great precaution must be taken in transplanting these trees, if one would be sure of having the larger percentage of them live after being transplanted.

An ideal soil for the pecan tree is a sandy loam with a clay subsoil, and, as said above, while it wants to be a fairly

moist soil, yet it must be one that is well drained. The clay subsoil is not absolutely essential, but usually a soil with a clay subsoil proves ideal for the pecan tree.

VARIETIES OF PECANS.

There are a great number of varieties of the budded or grafted pecans, but we believe that for the average home orchard the planting may be very well reduced to four or five, or six varieties. The king of all pecans is, beyond question, the Schley. It is not the largest, but the shell is very thin, fills out well, and the quality is tip top. Of all the varieties none has a better reputation than the Schley, and we think if one wishes to select only one variety to plant in the home orchard, then the Schley should, undoubtedly, be the one to select. It is a rather shy bearer, and if it were not for this reason it is doubtful if all the other varieties put together would be planted as extensively as this one.

We think, therefore, that the Schley, Stuart, Success, Frotscher and Van Deman are the leading varieties of pecans for average conditions in the South.

We think our second choice of these varieties would be Success. It is a large pecan with a very thin shell, and a high-class nut in every respect. It is gaining in favor very rapidly with the pecan growers, and we believe the home orchardists would not make a mistake to plant at least a few of this particular variety.

The Stuart is another variety that produces a large nut. It is one of the most desirable varieties for commercial purposes. The nut is very large, and while the shell is not as thin as is the shell of the Schley, yet it is thin enough to crack with comparative ease.

The Frotscher is said to be the largest of any of the real paper shell pecans. It is a variety that always does best on comparatively moist ground, and therefore its planting should be limited to bottom or semi-bottom land.

The Van Deman is one of the old standby varieties. The nut is long and the tip end of it comes out to a rather sharp point. The shell is easily cracked and the quality of the nut is good.

Trees Require Thorough Cultivation.

One other point that we wish to emphasize in this matter of growing pecans, and that is, to succeed with them, cultivation must be given. It is not enough to plant these trees and let the field around them grow up in weeds afterwards; because if this is done real success cannot be attained. In fact, if you are not going to cultivate your trees it will be far better not to set them at all. If you don't grow crops in between the rows of pecan trees, cultivate the entire ground, and do it just as thoroughly and just as frequently as though some of the annual growing crops were being grown on that ground.

When to Cultivate.—Cultivate throughout the spring and early summer, and then in late July sow cowpeas, or some other summer legume for the purpose of increasing the fertility of the soil. Of course, if one is growing cotton, or some other cultivated crops, in between the pecan tree rows, then the ground will be taken up with these, and the cowpeas or other summer legumes cannot be planted at the time mentioned. If these cultivated crops that take up the soil for the entire summer are grown, then, in the early fall sow some of the winter legumes, preferably crimson or bur clover.

Thorough Cultivation Brings Satisfactory Results.—Just as with any other orchard or annual crop, the returns will be determined very largely by the attention given to the pecans. When one lets the trees "knock" for themselves, then the returns will be little, if anything. If they are given careful cultivation, fertilization, etc., then the returns will, under average conditions, be highly satisfactory and profitable.

Do Well Near Barns.—Certainly everyone should plant at least a few pecan trees, and even though one may not wish to give up much ground to these, there are places about the house or barn where they could be planted to advantage, because they do remarkably well when planted close to the lot, or the back yard, or other place that is usually comparatively rich and moist. But keep in mind that wherever they are planted, thorough cultivation should be given, at least until the tree is several years old and more able to "knock" for itself, so to speak, than when it is quite young.

CHAPTER XI.

FIGS GROW WELL IN COTTON BELT.

Do Well Where Cotton Grows.—A few fig bushes should be in every home orchard, or at some place about the house; because there is no more delicious fruit grown than the fig. It is true that in a good many sections of the South the fig is killed quite frequently during the winter, but like the cat of nine lives, it has the ability to come back and keep on coming back. We do not believe we have ever seen a fig bush killed down to such an extent that it would not come right back from the roots the following year; and even though it does get killed every now and then, it is well worth while to grow them in almost any section where cotton can be grown. It is altogether probable that cotton can be grown successfully a little further North than can the fig; yet we have known fig bushes to flourish in those sections that were considered well toward the northern part of the cotton belt.

Desirable For Preserving Purposes.—Figs have been grown commercially only to a very limited extent in the United States, except in California, and this is probably because of the fact that in a fresh state the fruit does not ship very well. Of course, figs are grown commercially and dried in California and other semi-arid sections of the United States, but they have never been grown commercially to any great extent and shipped as fresh fruit. And, as said above, this is largely due to the fact that the fruit does not ship well. However, it is one of the very best fruits for canning and preserving purposes and for eating in the fresh state when it can be consumed right where it is grown. Of course, the figs can be marketed locally; that is, on the markets close enough by that the fruit can be sold the first day it is picked, or at least the following day.

We unhesitatingly say, therefore, that in practically all of the cotton belt everyone should have at least a few fig

bushes about the house. It is a bush that grows very rapidly and readily and will often bear the second year from setting.

Where to Plant Figs.—A good place to set fig bushes is in the back yard in a more or less protected place. Especially in the upper part of the South the fig bushes should be planted on the south side of the building, or other place that will give them more or less protection. Then, the figs especially like a moist place. They do not like a soil that is water-sogged, but a rich, moist soil; and some of the very finest fig bushes we have ever seen were those at the rear of the house, or in other places where considerable water was thrown. The corner of the garden or near the lot, or other place that is liable to be quite rich and fairly moist, will be found an ideal place for the bushes.

As said above, the bushes are very easily grown, and while they respond readily to good treatment, such as cultivation, fertilization, etc., yet if they are given a good rich, moist soil it matters little whether or not they are cultivated. Taken as a whole, though, they do respond quite readily to good treatment.

Varieties of Figs.

Brown Turkey Very Hardy.—Some of the varieties are more hardy than others. The Brown Turkey is one of the most hardy varieties we have, and is well adapted to growing in the upper part of the South, as well as in the lower part. The White Adriatic is another good variety, but should not be planted in the upper part of the South, on account of it being less hardy than some of the other varieties. Magnolia and Brunswick are two varieties that do well in the lower part of the South; that is, in South Texas, South Louisiana, South Alabama, South Florida and the very lower part of Georgia. They should not be planted very far north of Savannah, Georgia, Montgomery, Alabama, and Shreveport, Louisiana.

Celestial Excellent Variety.—One of the very best varieties of figs is the Little Celestial. It is the smallest size, but very sweet, and possesses a quality very much superior to that of any other variety of figs known. It is an excellent canning and preserving variety as well as the king of all figs for eating purposes. It does not produce as big a yield as the larger varieties, of course, but it is a very prolific variety; and this fact makes up largely for anything it lacks in size.

Varieties for Different Sections.—To sum the whole matter up, our recommendation would be that everyone living well within the cotton belt should at least plant a few fig bushes for home consumption and for supplying the nearby local markets. Those living in the middle and upper parts of the South should plant, almost exclusively, the Brown Turkey and Celestial. In the lower part of the South, or in the Gulf Coast region, the above two varieties along with the White Adriatic and the Brunswick, should be depended upon largely. The Blue Genoa is another variety that has done quite well in the Gulf Coast section.

Put in Protected Place.—If the proper varieties, therefore, are planted in these different sections and attention is given in the way of putting the figs in a comparatively rich place and a semi-protected place, there would be no reason why figs cannot be grown successfully in the middle and upper parts of the South—at least, almost to the northern limit of the cotton growing section in the upper part of the South. If the simple directions given in this chapter are followed, then there is no reason why an abundance of figs for home and local markets cannot be grown in practically all sections of the South.

CHAPTER XII.

PRUNING FRUIT TREES.

Properly pruning fruit trees is a matter of very great importance, because neither the largest amount of fruit, nor the best fruit, can be obtained without it. Of course, a large fruit tree can be produced without pruning, but the object is to get, not so much a great big tree, but a well formed and a well balanced one that will produce an abundance of first-class fruit, and in order to do this, pruning must be practiced.

Prune Trees for Wood Production.—In the case of the peach, the fruit is borne on wood that grew the preceding year, and therefore the peach tree that does not produce a liberal supply of new wood cannot produce maximum crops. Pruning a tree in the winter time practically throws it into wood production. The more severely a tree is pruned during the winter the greater the effort put forth by that tree the following season to produce new wood. Therefore, in order to have enough wood to produce a good crop of peaches each year, annual pruning that is more or less heavy must be resorted to.

Thus we see that pruning must be done, in the case of the peach, not only for the purpose of shaping the tree right, but in order to produce enough wood to grow a good crop.

Pruning Trees So They Will Not Grow High.

Another thing to keep in mind is that a peach tree should not be high. A properly shaped peach tree should be so low and spreading as to enable one to stand on the ground and pick half to two-thirds of the peaches. You cannot lean a ladder against a peach tree to pick the fruit like you can the larger-growing and stiffer-limbed apple tree.

How to Prune Apple Trees.—In the case of the apple tree, the pruning should not be so heavy, because the fruit is not produced on the new wood, that is, on the wood that grew the preceding year. However, the branches of the apple tree should be headed back when they grow quite rapidly. But the principal part of the pruning of the apple tree consists of heading back the branches that outgrow the average branches, and thinning out the branches and pruning so as to keep the tree properly shaped.

If three to five branches were not selected and left on the stump when the tree was headed back immediately after setting, this should be done the following winter. It should be done before any pruning is resorted to. One should pick out the three to five best branches on the tree, keeping in mind that they must be properly distributed around the tree and not exactly opposite each other, as explained in a preceding chapter.

Selecting the Main Branches.

Remove Branches From Main Trunk of Tree.—It matters not how many branches may start out the first season, all should be removed—that is, all that come from the main trunk of the tree—except the three to five that are selected to form the main trunk system of the tree. Then these three to five that are selected should be headed back rather severely. In the case of the peach, they should be headed back from one-half to two-thirds, depending on the amount of growth and other conditions. In the case of the apple, the heading back should not be quite so severe, but say from one-fourth to one-third, or where very rapid growth has taken place, about one-half.

When these main branches are headed back, leave two or three side branches for each one of these main branches, selecting these in such way as to have them properly distributed and not coming too close to the others. One of the principles of pruning that should be kept in mind is, never

let any two branches touch or be close enough to each other to seriously interfere with the proper development of either one. If this principle is kept in mind, then one can do good pruning provided a few of the other principal pruning facts are in one's mind.

Sunlight Is Required to Color the Fruit.—Each year when new branches are allowed to develop from the branches that were headed back the preceding year, only a few should be left. If one allows all the branches to develop, the result will be an abundance of wood and a tree so thick that sunlight cannot enter in and properly color the fruit. Therefore, do not be afraid to thin out branches, keeping in mind that what is wanted is an open-headed fruit tree and one sufficiently thinned so the sunlight can get in through the top of the tree at least for a short time each day. This is absolutely necessary in order to properly color the fruit. Fruit cannot ripen and take on its natural color with the total absence of sunshine.

COMMON SENSE BEST RULE FOR PRUNING.

Branches Should Be Cut Just Above Good Live Bud.—It is impossible to give all the minute details of properly pruning a tree, but we believe that by following the main principles outlined in this chapter, one can do good pruning. It is as much a matter of common sense as it is of following instsructions that someone else has given. One point that should be kept in mind is the fact that where one person will prune a tree too severely, there are thousands that will not prune enough. In fact, the writer has never yet seen an inexperienced person who would prune a fruit tree too severely.

Another point that should be kept in mind in pruning is that when any branch is headed back, it should be cut off just above a good live bud. Unless this is done, that portion of the wood above the last bud will rot and possibly cause the decay of that whole branch later on. When

making these cuts, they should be made slanting and not straight across. This may sound like a small point, but it is certainly an important one.

Fig. 1

Fig. 2

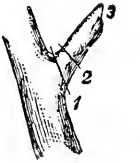
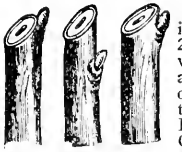


Fig. 3

Fig. 4

RIGHT AND WRONG WAYS OF PRUNING.



Figs. 5 6 7

Figure 1 shows how not to cut off a branch. By sawing a little on under side of branch as shown in Figure 2, this splitting can easily be avoided. Figure 3 shows where a branch should and should not be cut. If cut at 3, a stub is left that will probably result in decaying of the tree. The cut at 2 is too far away from the main trunk. The proper place to make the cut is shown at 1. Figure 4 shows how and where to remove a side branch. Cut at the dotted line to which the arrow is pointing. Always cut right close up to the trunk of the tree or the branch from which the limb comes. Figure 5 shows where a cut has been made too close to a bud so that the bud is injured and will seldom produce fruit. In figure 6 the cut was made too far above the bud; in figure 7, it was made right.

Cut Branches Smoothly to Prevent Rot.—Another point that should be kept in mind in pruning is, that when a branch is cut off entirely, that is, when it is cut off up next to the branch from which it came, or from the main trunk of the tree, the cutting should be done right up smoothly with the trunk of the tree or the branch from which it came. If a stub is left, even though it may be only one-half inch or one quarter inch in length, trouble is liable to result. This stub cannot get food and dies and rots, and when it rots, it rots right on in through the branch, or the main trunk of the tree from which it came, and this often means "the beginning of the end" of that tree. One has often seen hollow trees where the direct cause of it was the cutting off of a branch without cutting it smoothly with the trunk of the tree, but leaving a stub. It is highly important that this point be kept in mind and absolutely lived up to, because if it isn't, it will be sure to cause trouble.

PROPER WAY OF CUTTING LARGE BRANCHES.

When a branch larger than three-quarters of an inch in diameter is cut off, the wounds should be painted with some kind of paint. This is desirable because the painting of the wound will prevent the rot from getting to work on the tissues of the wood. If this painting is not done, rotting may start. It is just like covering a wound on your own flesh. It is necessary to cover it over in order to give the living tissues a chance to heal the wound before a fungous disease gets busy on the outside.

Remove All Diseased Branches.—The proper time to do this pruning, of course, is in the winter, or after all the leaves have shed from the trees and they have become thoroughly dormant. Pruning should be done every winter. The younger the tree, the more pruning required as a rule. The peach tree, as said above, will require more pruning than the apple tree. Cherry trees do not require very heavy pruning. Fig bushes require only thinning out and heading back wherever necessary in order to keep them in the desired shape.

When pruning fruit trees during winter, every diseased, dying or injured branch should be taken out, because every time one of these is left, it increases just that much the chances of the whole tree becoming diseased. It is not necessary, or even desirable, to wait until winter to remove such branches as these. It is a mighty good plan to watch the trees carefully, and every month or so remove any diseased, dead or dying branches that cannot possibly be any good to the trees in the future. Remove these at any time they are found.

REMOVE LARGE BRANCHES ONLY WHEN ABSOLUTELY NECESSARY.

It should be kept in mind that the proper way to prune a fruit tree is to so prune it that large branches will never have to be removed. Of course, if the branches are allowed

to become too thick, it is better to remove a large one than to allow too many of them to remain. But the point that we are trying to make is, that if the proper pruning is done from the beginning, it will never be necessary to remove large branches. It is always disturbing to a tree more or less to remove a great big branch, and this should not be done except where it is absolutely necessary.

Saw Off Large Branches to Prevent Splitting.—One other point with reference to pruning is that when a large branch is cut off, be sure to cut it in such a way as not to allow it to split off. Saw it off three or four inches from the trunk of the tree, making a small cut on the under side to prevent splitting, and then afterward saw off the stub right up next to the tree. By going at it this way, splitting can be avoided.

As said above, in pruning a fruit tree, one must use his own common sense and good judgment as much as anything else. It is well enough to have in mind the principles of pruning as outlined by others, but this is about all that can be done. Follow your own common sense in the matter.

CHAPTER XIII.

GRADING AND DISPLAYING FRUITS.

Believing that every farm home where there is a home orchard should market the surplus fruits on the local market, we are discussing in this chapter in a very elementary way, some of the best methods of picking, grading, packing and displaying fruit so as to bring good prices.

Proper Marketing Brings Maximum Prices.—In the marketing of fruits there is just as much in properly grading, packing and displaying as there is in growing fruits of good quality. By this we do not mean that quality should be sacrificed, because that is the foundation of the whole proposition, and unless there is quality the highest prices cannot be obtained. It is equally true that unless fruit is properly graded, packed and displayed, the maximum prices cannot be obtained. So this is a two-sided proposition; that is, the work is not completed when the fruit is grown and the quality is good. It must be properly gathered, graded, packed and displayed. It might just as well be accepted as a fact that those who refuse to give real consideration, thought and care to this matter of grading, packing, and displaying the fruit, cannot secure maximum prices.

Display Fruit in Attractive Form.—In order to secure these maximum prices, the fruit must be displayed in attractive packages. It doesn't matter how good the quality is, if one puts apples, peaches and other fruits in an old sack or in an old tumbled-down box, maximum prices will not be received. What one needs to do is to keep on hand a sufficient number of various kinds of packages to properly market the fruit in an attractive form.

We have very often known it to happen, where fruit of equal quality was carrried to market, one lot in attractive packages and another in a slip-shod manner, that that properly put up brought two or three times as much as the same fruit that was not properly displayed.

Supply Local Markets With Fruits.

Market Fruit in Proper Craest, Baskets, Etc.—We believe that every farmer should have a home orchard, sufficiently large to supply all the home needs, and to supply, in a limited way, the home market. We venture to make the assertion that there are not many farms from which the surplus fruit could not be marketed to advantage and without in any way diminishing the supply needed at home.

Therefore, every person who has any of this fruit to market in the fresh form, should supply himself with the proper crates, baskets, etc., needed for handling and displaying this fresh produce in the best possible manner. With this thought in mind, we present a few illustrations of some of the common types of containers used for displaying and marketing various kinds of fruits.

Detailed Description of Several Marketing Containers.

No. 1 is the ordinary *grape basket,* made for shipping grapes. As is shown, this basket is made with a solid board bottom and with veneer sides and also a veneer cover. This cover is fastened on with little wire hooks. This type of basket can be used when marketing various kinds of fruits, but is especially made for the marketing of grapes, and certainly everyone having even a small quantity of grapes to market should have on hand a number of these baskets.

No. 2 is what is known as a *display basket.* This is a basket which everyone who markets any fruits should have a supply of, because it is long and shallow and is especially adapted to displaying fruits to the best advantage. It is suitable for displaying peaches, apples, plums, pears, or in fact, anything of this kind that one wishes to show off to advantage. As said above, no one marketing fresh fruits in a local way should be without a supply of these baskets.

No 3 is what is known as a *repacking basket,* and can be used for marketing fruits, or can be used for putting fruits in crates. This is the size of basket that is ordinarily used

in four and six-basket carriers or crates, and is very well adapted for this kind of work. One can very easily display a basket of this kind with peaches, apples, plums, pears, cherries or anything of the kind. They are comparatively inexpensive and can be had in one, two, three, or four-quart sizes.

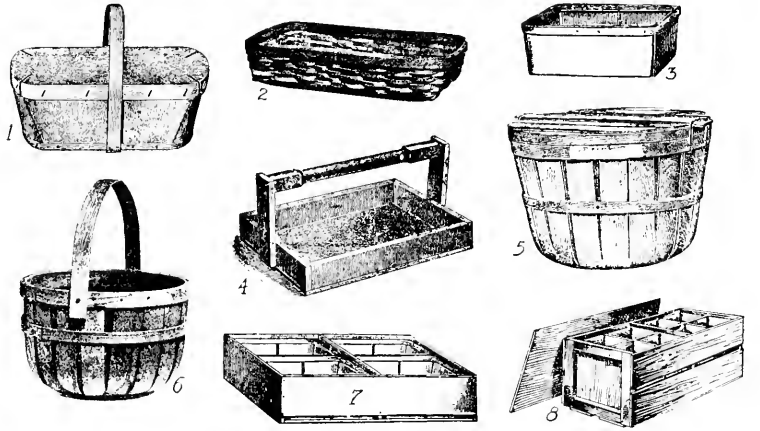
No. 4 is a *picking stand* or *carrier,* and everyone growing berries, particularly strawberries, raspberries, dewberries, etc., should have a supply of these, because the quart berry baskets fit into them nicely, and one can carry a considerably greater number of baskets of berries this way than can possibly be carried by any other method. They can be had in different sizes and we believe the two main sizes are those that carry four of the quart baskets and those that carry six of the quart baskets. The quart berry baskets that are used for packing strawberries, dewberries, etc., are the kind of baskets referred to in this paragraph. Those who have tried to handle strawberries, dewberries, raspberries, etc., without making use of this carrier, have missed something. Certainly a supply of them should be had by all berry growers.

No. 5 is what is known as the *shipper's bushel basket.* The cover on top is what is known as the hoop cover and is used by a great many growers and shippers of various kinds of fruits and produce. The lid is slatted as can be seen from the illustration. This is a very popular kind of container for marketing various kinds of heavy fruits and vegetables, such as apples, peaches, pears, etc. All of those catering to local markets with fruits should certainly have on hand a supply of these.

No. 6 is that kind of a *stave basket* which is mighty handy when picking fruit. The bail on the basket swings or drops down, thus making it easy to handle. The bail is attached to the basket by rivets and washers, which make it strong and durable. This basket is quite useful on any fruit farm, because it can be used, not only for picking fruits, but for a great variety of purposes.

No. 7 is that of a *four-basket carrier.* This carrier is useful when one wishes to properly handle or display small fruits, such as dewberries, raspberries, strawberries, etc., in larger quantities than a single basket. And then, too, this carrier makes it more convenient to handle several baskets than if they were handled singly.

No. 8 shows a *crate* which comes in two sizes, namely, 16 and 24 quarts. This is the crate that is especially adapted to the marketing of strawberries or other small fruits of this kind. The baskets containing the fruit are packed right in on top of each other and then the cover is nailed on. Even though marketing strawberries, dewberries, raspberries, etc., on a comparatively small scale, one will find the use of this crate quite desirable.



Different Types of Fruit Containers

Many Dollars Can Be Saved By Marketing Fruits.

There are many dollars' worth of fruits going to waste on practically every Southern farm. It is equally true that while this very thing is taking place there are folks in the cities that do not consume anything like the quantity they should. It is true that this may sometimes be because fruits

are not bringing a good price, but we venture to make the assertion that if one will supply himself with the containers similar to those shown above, and will grow first-class fruits, pick, grade, pack and display them properly, satisfactory prices will be received.

When to Pick Peaches.—In picking peaches to sell on the local market, one should be properly informed as to when such peaches should be picked. It will not do to wait until they get soft and then pick them; because even though they may not be carried more than a mile or two and may be marketed at once, if they are soft when they are picked they will invariably be in bad shape before they are marketed. Therefore, the proper thing to do is pick them just before they get soft. Do not pick them until they are well colored and just ready to become soft. Anyone who will carefully examine the peaches a few times can very well tell when a peach is just about ready to become soft.

In picking the peaches, be careful not to bruise them; also, don't snatch them off as though they were rocks, but take hold of the peach and twist it and it will break off in such way as not to injure the peach or the branch from which it was picked.

In picking apples, pears, or other fruit of this kind for the local market, it is equally important to gather them before they become soft. One can, with a little experience, tell when the fruit is just about to get soft and pick it two to three days before this time.

Pick Fruit at Proper Time to Get Best Results.—We have seen many people make the serious error of imagining that the peaches, plums, pears, or apples should not be picked until they are thoroughly soft or in the condition which one would like to have them when pulling from the tree to eat at once. This is a mistake. Anticipate the ripening period by two or three days, when they are to be put on the local market, and they will be picked at the proper time in order to secure the best results.

CHAPTER XIV.

VARIETIES OF FRUIT THAT SHOULD SUCCEED IN THE SOUTH.

Varieties Recommended For the Upper South.

Apples:

Early Varieties—Yellow Transparent, Red June, Early Harvest, Horse, Maiden Blush, Wealthy.
Mid-Season—Kinnard, Bonum, Grimes, Delicious.
Winter—York Imperial, White Pippin, Rome Beauty, Royal Limbertwig, Winesap, Stayman Winesap.

Pears:

Keiffer, Seckel and Bartlett.

Peaches:

Named in order of ripening: Mayflower, Greensboro, Arp Beauty, Carman, Hiley, Belle of Georgia, Elberta, Late Crawford, Chairs, Smock, Salway.

Plums:

Native Varieties—America, Munson, Wild Goose.
European Varieties—Green Gage, Purple Damson, Shropshire Damson.
Japanese Varieties—Red June, Burbank, Abundance.

Cherries:

Sour Varieties—English Morello, Montmorency, Richmond.
Sweet Varieties—Tartarian, Windsor, Spanish.

Raspberries:

Black Variety—Cumberland.
Red Variety—Cuthbert.
Yellow Variety—Golden Queen.
Purple Variety—Columbian.

Blackberries:

Early Harvest, Eldorado.

Dewberries

Lucretia.

Grapes:

White Variety—White Niagara.
Red Variety—Brighton, Delaware, Lutie, Catawba.
Black Variety—Concord, Moore, Worden and Ives.

Quince:

Angers, Champion, Meech, Orange.

VARIETIES OF FRUIT RECCOMMENDED FOR THE MIDDLE SOUTH.

Apples:

Early Varieties—Red Astrachan, Horse, Yellow Transparent, Red June, Early Harvest, Bledsoe, May (very early), Williams.

Mid-Season—Bonum, Kinnard, Delicious, Grimes, Virginia Beauty.

Winter—Winesap, Yates, Terry, Jonathan, Stayman Winesap, York Imperial.

Pears:

Keiffer, Early Harvest, Leconte, Seckel.

Peaches:

Early to late summer and even into the fall in order of ripening—Mayflower, Sneed, Greensboro, Red Bird, Carman, Hiley, Belle of Georgia, Elberta, Late Crawford, Munson Free, Eaton's Gold, Salway, Stinson and Gladstone.

Plums:

The same varieties as planted in the upper South should be used.

Cherries:

Only sour varieties should be planted: English Morello, May Duke, Richmond, Montmorency and Baldwin.

Raspberries:

Cumberland, Gregg (both black); Cuthbert, St. Regis (both red).

Blackberries:

Early Harvest, Eldorado, Wilson.

Dewberries:

Lucretia.

White Grapes:

Niagara, Diamond.

Red Grapes:

Lutie, Agawam, Catawba, Brighton, Delaware.

Black Grapes:

Concord, Carman, Moore's Early, Campbell's Early and Worden.

Persimmons:

Japanese.

Figs:

Brown Turkey, Celeste and Ischia.

Scuppernong Grapes:

Scuppernong, Thomas (reddish purple), Black Misch, James, Flowers, Eden and Memory.

Mulberries:

These should be planted for the hogs and chickens, but ripening quite early in season are not distasteful to eat; Hick's Everbearing, Black English and Browning.

Pecans:

Delmas, Frotscher, Money-Maker, Schley, Stuart, Van Deman—for the lower part of the middle South. Indiana and Mantura—for the upper part of the middle South.

Pomegranate:

The pomegranate can be grown in the lower part of the middle South.

Quinces:

Angers, Champion, Meech and Orange.

Varieties of Fruit Recommended For the Lower South.

Apples:

For the lower South, apples do not do well as a rule. However, the following varieties will be the best to depend on: Horse, Early Harvest, Red June, Yellow Transparent, Kinnard, Terry and Fanny.

Pears:

Keiffer, Le Conte, Garber.

Peaches:

Florida Gem, Honey, Jewel, Waldo, Angel, Imperial, Pollas, Climax, Japan Dwarf, Colon, Cobbler, Onderdonk, Estelle, Hall Yellow, Dorothy.

Cherries:

Will not grow satisfactorily in the lower South.

Persimmons:

Japanese persimmons are at home, of course, in this section. The most largely planted varieties: Tanenashi, Eureka (hardy variety), Zengi (early variety). Castata and Ormond are late varieties.

Figs:

Celeste, Brown Turkey, Brunswick, Ischia, Magnolia, Lemon. Magnolia is grown very little except in southern Texas, but is the leading variety of that section.

Grapes:

White Grapes—Wapanuka, Krause, Niagara, Hidalgo.
Red Variety—Brighton, Valhallah, Captivator, Agawam.
Black Variety—Carman, Cloeta, Champenel and R. W. Munson.

Scuppernongs:

Raspberries:

Dewberries:

Blackberries

Mulberries:

All varieties suitable for the middle South will prove satisfactory in the lower South.

Pecans:

Well known varieties like Delmas, Frotscher, Money-Maker, Schley, Stuart, Van Deman.

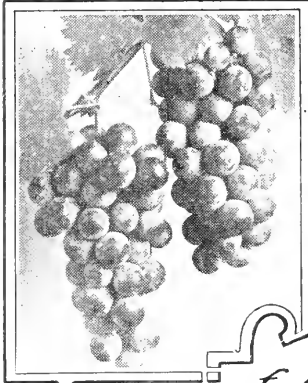
Walnut:

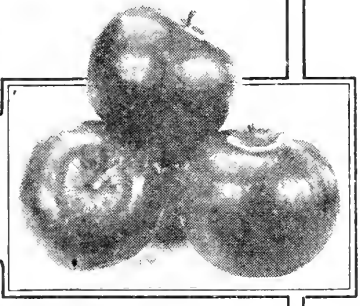
In both sections of the lower South the English walnut can be planted to a limited extent.

Orange:

The satsuma orange will do well in the upper part of the lower South. It grows well in the vicinity around Mobile, in northern Florida, portions of Louisiana and Texas. Of course, no attempt is made in this article to give a general list of the citrus fruits that are suitable for the lower South.

No effort has been made to name all of the different varieties that will do well in the different sections of the South. We have, of course, omitted some varieties that will do well and that may be especially favored by some people. Just keep in mind that our purpose in giving this list of varieties is to name a list that will, under average conditions, prove satisfactory in the section for which they are named.





EXCELLENT SPECEMENS of APPLES, PEACHES AND GRAPES

CHAPTER XV.

TOOLS NEEDED TO DO FIRST-CLASS PRUNING.

Don't Use Carpenter's Saw.—No one can grow the best fruit, or even satisfactory fruit, unless the trees are properly pruned. No one can do the right kind of pruning without having the proper tools for doing the work. We have seen many trees butchered by persons attempting to prune with an ordinary carpenter's saw and axe.

Four Different Tools Are Needed.—Where only a few fruit trees are grown in the home orchard, at least four different tools are needed and these are as follows: (1) pruning knife, (2) hand pruning shears, (3) pruning saw, (4) a pair of long-handled pruning shears.

Pruning Knife Needed.—One can, of course, do without the pruning knife, but this is not desirable, because often neither the long-handled nor the hand pruning shears, nor pruning saw will do the work under certain conditions quite so well as a pruning knife. Neither will an ordinary pocket knife do the work so well, because a pruning knife has what is commonly known as a hooked bill. This is nothing more nor less than a knife with the blade curving inward so as to give the principal cutting power to the blade near the end.

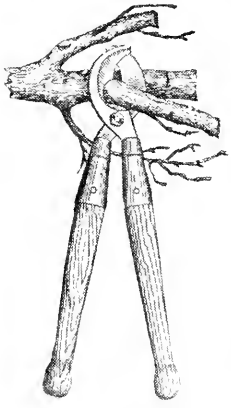
LONG-HANDLED SHEARS GIVE MUCH POWER.

Hand Shears Essential.—The long-handled pruning shears, which are also illustrated along with this chapter, are highly desirable, because by using two hands, and by means of these long handles, great cutting power can be secured. The hand pruning shears, illustrated in this chapter, are the ones with which most of the pruning should be done, but the long-handled ones will be needed on practically every tree. Therefore, be sure to get these and do not try to do the work with the small hand shears entirely.

Shape of Saw.—The pruning saw illustrated along with this chapter is of the proper shape. Notice that the blade is narrow and curved. It is curved in such manner as to

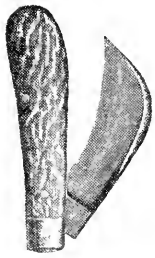
make cutting as easy as possible. Under no condition should one try to use an ordinary carpenter's saw, because this is

The Right Shaped Pruning Saw



Long-handled Pruning Shears

Hand Pruning Shears



Pruning Knife

so wide as to make it impossible to saw off the branches without knocking the bark off the tree in many places. The saw shown herewith, or even a straight saw with a narrow blade, should always be used in preference to the ordinary wide carpenter's saw.

Cost of Tools.—The purpose of this chapter is not to attempt to tell how to prune fruit trees, but to point out exactly what one needs before first-class pruning can be done. Just make up your mind once for all that unless at least these four tools are on hand, first-class pruning is next to impossible.

The cost of these four tools will vary from $7.00 up, depending on the quality. As a rule, however, one can safely count on buying the four for around $7.00 or $8.00, and by spending this much one can secure tools that are reasonably good and that should do the work expected of them.

CHAPTER XVI.

WINTER SPRAYING OF FRUIT TREES.

What Is Spraying?—Spraying is nothing more nor less than applying a poison to insects and fungous pests for the purpose of destroying them. The kind of poison to be used depends on the kind of insect or fungous pest one is trying to destroy. For this reason, it is necessary to know something about the habits and the life history of an insect or fungous pest before determining just exactly what kind of spray material should be used and when it should be applied.

Two Kinds of Spraying.—In the first place, spraying can be divided into two general divisions: (1) winter spraying; (2) summer spraying. Winter spraying is usually done for the purpose of killing insects which must be sprayed with a material that is so strong that it will kill them just by coming in contact with them.

How to Spray For San Jose Scale.—Under this head comes one of the most destructive and one of the most commonly known insect pests, the San Jose scale. Pests of this kind must be killed, not with poison, but by having applied to them a spray mixture that is strong enough to burn the insect to death when it comes in contact with it.

In other words, the San Jose scale takes its food from the juice of the tree or the fruit, and therefore, any poison applied directly to the tree or the fruit or the foliage would have no effect on this pest.

Two Classes of Insects.—In order to make this point clear, we would like to bring out the point that insect pests are of two classes: (1) biting and (2) sucking. Those that bite and eat the leaves, or the fruit itself, can be killed by putting on the fruit or leaves a poison that will kill them when they eat it; but those that secure their food from the juices inside the fruit or under the bark must be killed by having something put on them that will kill them when it comes in contact with them.

San Jose Scale Scourge of Fruit Trees.

Scale Worst of All Pests.—It must be kept in mind that this terrible pest, San Jose scale, probably causes the death of more fruit trees than all other fungous diseases and insect pests combined. It is a regular scourge to fruit trees. Literally thousands and hundreds of thousands of fruit trees die every year from the damage caused by this pest.

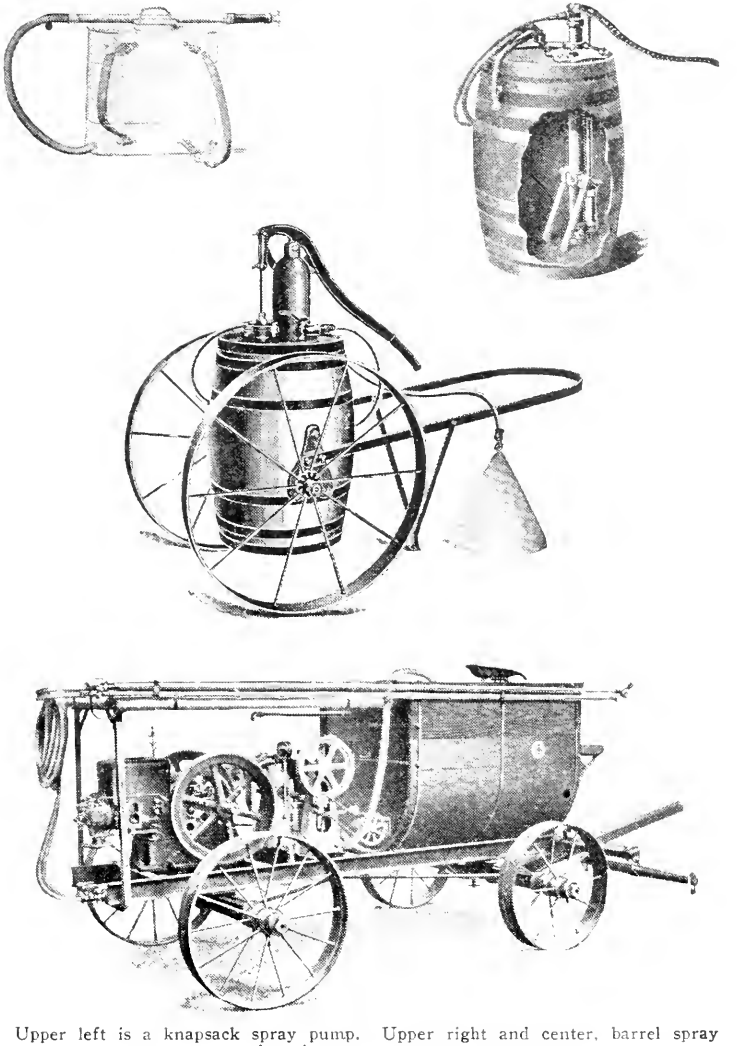
How to Detect San Jose Scale.—The presence of San Jose scale on the fruit trees can usually be detected by carefully examining the bark. If it is covered or even speckled with an ashy gray substance that appears to be little round gray spots, the chances are that this pest is present. By rubbing the knife blade rather hard over the place where one thinks the scale is present in large numbers, a yellowish substance may exude. This is a pretty conclusive proof that this pest is present. Keep in mind that the San Jose scale is a little insect, yellow in color, living directly under a thin shell or scale. The shell or scale is grayish in color, but the insect proper is yellow.

Spray For Scale Only During Winter.

Now, keep in mind that the only time one can put a spray on the fruit trees strong enough to kill the scale is during the winter. This is because of the fact that anything put on earlier, or while the fruit trees are growing, would be strong enough to damage the trees. The home-made lime sulphur solution or the concentrated lime sulphur solution may be used.

Use Commercial Solution For Scale.—As a rule, however, it is more desirable to depend on the commercially prepared solution than it is to make it at home. Both of these can be secured from advertisers in farm papers, and these advertisers have distributors and dealers in these materials nearly all over the country.

If for any reason anyone prefers to make the lime-sulphur wash at home, directions for doing so can be



Upper left is a knapsack spray pump. Upper right and center, barrel spray pumps, and at bottom, a power spray pump.

secured either from your state agricultural college, your county agent or your farm paper. We would recommend, however, except where one is especially equipped for making this material, that the commercially prepared solution be used; because our experience has been that, taking all things into consideration, the commercially prepared solution is either cheaper or proves more satisfactory in the long run.

Spray After Pruning Is Done.

Destroy Pruned Off Branches.—The spraying, probably, should be done after the winter pruning has been done. However, unless one will immediately gather up and burn the branches and twigs cut off the apple, peach or other trees, it is far better to let them remain on the trees until after the spraying, because if branches or twigs infested with San Jose scale are cut and left lying around on the ground, or in the edge of the orchard, these will serve as regular breeding patches for next year. Spraying is less trouble and takes less work and less spray material when pruning is done before the winter spraying is given, and we recommend that the pruning be done first and then the spraying. But remember, every twig and branch cut off should be burned in order to avoid any possibilitiy of having the orchard re-infested with pests from these pruned off branches.

Keep Spray Solution Thoroughly Stirred.

Agitator Must Be Kept Working.—Too much attention cannot be given to this matter of seeing that the agitator in the barrel or tank is in good shape at all times because if for any reason this should break or not work well, it means that the spray mixture will not be thoroughly mixed, and that part of the time you will be spraying with a mixture that is too strong, and at other times you will be spraying with nearly pure water.

Never Leave Solution in Tank.—It is of the utmost importance that the spray mixture should not be left in the barrel or spray tank, because the chemicals in the spray mixture are so strong that they will, in a comparatively short time, absolutely destroy the pump. These chemicals will eat it out and destroy it in a very short time. Therefore, when each spraying is completed, see that every particle of the spray solution is cleaned from the barrel or tank. In order to be sure that the pump is protected against these chemicals, it is advisable not only to take the spray mixture out, but run through a considerable amount of water so as to rinse these chemicals off.

Wear Old Clothes While Spraying.—In doing this spraying with lime-sulphur wash or scalecide, it is desirable for those doing the spraying to wear old clothes, or an old slicker overcoat, because this material is quite strong and caustic and will very readily ruin good clothes. We don't mean that it will burn them as soon as it comes in contact with them, but it will injure them and cause them to wear out very quickly. It is also desirable to keep this material out of the eyes, because it does not feel good one bit, and in fact, may do some injury to the eyes if too much is allowed to get into them.

Give Second Spraying Before Buds Swell.—Where San Jose scale is serious, it is desirable to spray twice each winter in order to control the pest. Give the first spraying in early winter and the second spraying in the late winter. Keep in mind, however, that the second spraying must be given before the buds begin to swell and come out, because just as surely as this solution is applied to the fruit trees after the buds begin to show, strong enough to kill the scale, the tree will be damaged.

SPRAYING A GOOD FORM OF INSURANCE.

Kills Fungous Diseases Also.—These sprayings will serve as an insurance against serious damage by this pest. Furthermore, spraying of this kind not only kills the San

Jose and other scale insects that may be present, but destroys literally thousands of fungous disease spores, such as black rot, brown rot, etc., that may have given trouble the past summer. Keep in mind that these plant diseases go through the winter in the spore form and that ordinary winter weather does not kill the spores. However, it has been thoroughly demonstrated that this lime-sulphur or scalecide wash that is used for San Jose scale destsroys large numbers of these plant disease spores.

If in Doubt, Spray.—Therefore, even if you think you have no scale, which we very much doubt to be the case, it will still be a good idea to go ahead and spray. You can rest assured that you will be taking out a good form of insurance against the scale and that you will do enough good in the way of killing plant disease spores to make the spraying worth while from the dollars-and-cents standpoint.

CHAPTER XVII.

SPRING AND SUMMER SPRAYS FOR DIFFERENT FRUITS.

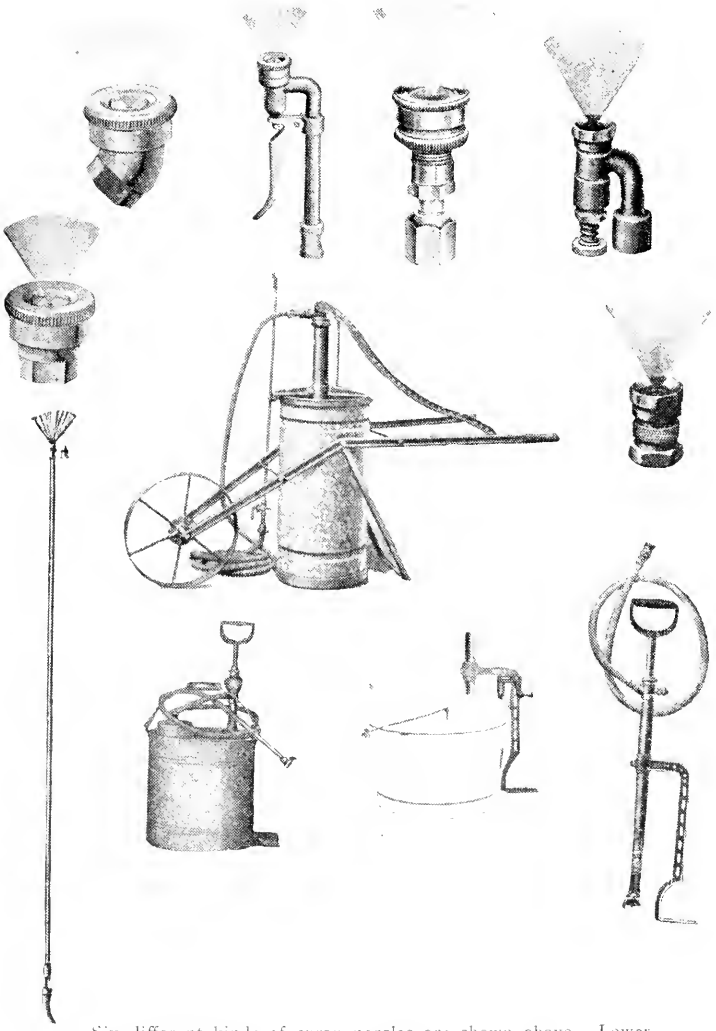
To Control Peach Worm.—Spraying Peaches to control curculio, aphis, leaf curl, brown rot, scab, etc., will have to be started early. The curculio is a black beetle-like insect. It punctures a hole in the young peach, lays an egg in it, and this egg hatches into the peach worm that bores around in the peach and makes it second-class fruit. It is the early spring spraying that will help to control this pest.

Spray With Lime Sulphur.—The first spraying should be given the peach just as the blossom or shuck from the bloom begins to fall off the young fruit. Self-boiled lime-sulphur should be used for this spraying. This self-boiled lime-sulphur is for the purpose of controlling the leaf curl, brown rot and scab. To control the curculio or worm, arsenate of lead or some other poison should be added. About two pounds of arsenate of lead to 50 gallons of the spray mixture is about the right quantity.

Second and Third Sprayings.—To properly control worms in peaches and the plant diseases mentioned above, another spraying with the same material should be given about three weeks after the first spraying. Then just before the peaches begin to show signs of ripening, still another spraying should be given, using either the self-boiled lime-sulphur or the concentrated lime-sulphur solution. No arsenate of lead need be added for this spraying, as the curculio or worm is no longer the trouble, and this spraying is for the purpose of controlling the brown rot and scab.

Sprays For Apples and Pears.

Apples, pears and quince must also have rather thorough spraying during spring and summer if one would grow first-class fruit. Not only do diseases attack the apple, but the codling moth insect causes these fruits a great deal of



Six different kinds of spray nozzles are shown above. Lower left is an extension rod. Small bucket spray pumps of different types are shown in the center and at the bottom.

damage. This codling moth is the mature insect which lays the egg that hatches into the worm that is so often found in apples, and it is the early spring and summer sprayings that must be given in order to control this pest.

When to Spray Apples, Pears, Etc.—The first spring spraying of apples should be given just as the last of the blossoms begin to fall. The Bordeaux mixture or concentrated lime-sulphur solution plus 2 pounds of arsenate of lead should be used. The Bordeaux or lime-sulphur controls the diseases and the arsenate of lead looks after the codling moth and the leaf-eating insects, whatever they may be.

When to Use Bordeaux.—For the first spring spraying of apples, pears, and quince, the concentrated lime-sulphur solution may be used instead of Bordeaux mixture. If it is used, mix it in the proportion of one gallon of concentrated lime-sulphur to 35 to 40 gallons of water, plus the 2 pounds of arsenate of lead. For the second and third sprayings, however, the Bordeaux mixture should be used, because the Bordeaux controls blotch much better than the lime-sulphur In fact, most apple growers would not think of using anything other than Bordeaux for these later sprayings in order to control the blotch.

Second and Third Sprayings For Apples.—About three weeks after the first spring spraying is given to the apples and pears, the second spraying should be given, using the same spray solution as used for the first. A third spraying three weeks after the second should be given, using the same spray material.

SPRING AND SUMMER SPRAYS FOR GRAPES.

Start Just Before Blooms Come Out.—For grapes the first spraying should be given just before the blooms come out, for the purpose of controlling the berry moth and the leaf hopper; also for controlling anthracnose, mildew and black rot. For this spraying use Bordeaux mixture of the 3-4-50 formula plus 2 pounds of arsenate of lead. The

Bordeaux mixture, of course, controls the plant diseases and the arsenate of lead is put on to kill the leaf-eating insects. Then just after the fruit is well set, another spraying with the same material used for the first spraying should be given, for the same insects and plant diseases.

Grapes Require Frequent Spraying.—Approximately two weeks to 18 or 20 days later give the third spraying. For this spraying the same mixture is recommended as for the first and second spraying.

In some instances a fourth, a fifth, and even a sixth spraying may be necessary in order to thoroughly control anthracnose, mildew and black rot of the grape. It is the black rot that causes more trouble than possibly all the other diseases combined on the grape. All are quite familiar with this disease, as very often it attacks the grape to such an extent that a very small portion of them ripens. It is only by thorough spraying, and a sufficient number of times at that, that this trouble can be prevented, and it is very well worth while indeed.

On opposite page will be found a spray calendar in condensed form, and from which definite information as to when and with what to spray may be easily secured.

Number Sprayings to Be Given.

In our spray calendar, we have arranged four sprayings; one during the winter, and three spring and early summer sprayings. Where an orchard is very heavily infested with San Jose scale, a spraying in late fall and one in late winter for this pest will be found advisable. As a rule, however, one of these winter sprayings with lime-sulphur solution will be found sufficient.

Three Sprayings Necessary.—It is also true that more than three spring and early summer sprayings may be desirable under certain conditions, and it is equally true that under other conditions, two sprayings may suffice. We do not believe, however, that anyone should ever give less than two of the spring or early summer sprayings, it mat-

A SPRAY CALENDAR FOR ORCHARD FRUITS

		First Spraying	Second Spraying	Third Spraying	Fourth Spraying
APPLE PEAR AND QUINCE	When to Spray	During fall and winter, or before buds swell in spring.	Just as the last of the blossoms fall.	Three weeks after second spraying.	Three weeks after third spraying.
	To Control	San Jose Scale and other scale insects. Also Aphis. This spraying also destroys spores of many fungous diseases.	Codling Moth. Scab, Leaf-eating insects.	Codling Moth. Bitter Rot, Scab, Blotch.	Codling Moth. Black Rot, Bitter Rot, Scab, Blotch.
	Spray to Use	Concentrated Lime-Sulphur solution. 1 gallon to 7 to 9 gallons of water.	Bordeaux mixture; 4-5-50 plus 2 pounds arsenate of lead.	Bordeaux mixture; 4-5-50 plus 2 pounds arsenate of lead.	Bordeaux mixture; 4-5-50 plus 2 pounds arsenate of lead.
PEACH AND PLUM	When to Spray	During fall and winter or before buds swell in spring.	Just as the dried up blossoms or shucks are falling off the fruit.	Three weeks after second spraying.	Just before fruit begins to show signs of ripening.
	To Control	San Jose Scale and other scale insects. Also kills spores of many fungous diseases. Aphis.	Curculio, Aphis, Leaf Curl, Brown Rot, Scab.	Curculio, Leaf Curl, Brown Rot, Scab.	Brown Rot, Scab.
	Spray to Use	Concentrated lime-sulphur, 1 gallon to 7 to 9 gallons of water.	Self-boiled lime-sulphur plus 3 pounds arsenate of lead.	Self-boiled lime-sulphur plus 3 pounds arsenate of lead.	Self-boiled lime-sulphur.
GRAPES	When to Spray	Just before blooms come out.	Just after fruit sets.	Two weeks to 18 days later than second	Two weeks to 18 days later than third
	To Control	Berry Moth, Leaf Hopper, Anthracnose, Mildew, Black Rot.	Berry Moth, Leaf Hopper, Anthracnose, Mildew, Black Rot.	Berry Moth, Anthracnose, Mildew, Black Rot.	Berry Moth, Anthracnose, Mildew, Black Rot.
	Spray to Use	Bordeaux 3-4-50 plus 2 pounds of arsenate of lead.	Same as first.	Same as first.	Same as first.

ters not how ideal the conditions may be, or how free from fungous and insect pests the fruit seems to be. We know that spraying is laborious and costly work, and the owner of a home orchard does not want to do more spraying than is actually necessary. To be safe we should say, however, that nothing less than three spring or early summer sprayings should be given, unless the weather is quite dry and conditions in every respect are ideal to keep down insect and fungous pests. The later maturing varieties of peaches and apples will naturally need more spraying than the early maturing varieties.

Keep Spray Materials on Hand.—It is often difficult to secure the spray mixtures or spray materials when one waits until the last minute before buying them. Therefore, the only proper thing to do is to buy these materials considerably in advance. The concentrated lime-sulphur can be secured from any number of firms advertising in farm papers, and in many instances, from the local drug stores or seed houses. A supply of these should be kept on hand at all times.

Bordeaux mixture can also be bought in concentrated form, but those who prefer to do so can make it at home. Directions for making this mixture are given elsewhere in this book.

Use Spray Mixture Soon After Making.—The self-boiled lime-sulphur wash cannot be bought in concentrated form and must be made at home, and it should be used in a reasonable length of time after it is made, as it will not keep for a very great length of time.

Every person having a home orchard should, however, keep on hand a liberal supply of the concentrated lime sulphur solution, concentrated Bordeaux mixture, arsenate of lead, flowers of sulphur, stone or unslaked lime and bluestone, or copper sulphate. In addition to this, some of the other spray mixtures such as black leaf 40, scalecide, kerosene emulsion, etc., will be found useful.

CHAPTER XVIII.

HOW TO MAKE THE SUMMER SPRAY MIXTURES.

Bordeaux Mixture.—Of all the spray mixtures used during the summer, none is probably more common or more often used than Bordeaux mixture. It is nothing more nor less than a mixture of bluestone, rock lime and water, and is called a fungicide, because of its action in destroying fungous spores such as those causing the rot of fruits and various other diseases of the fruit and leaves.

Every person having a spray pump (and this should mean everyone having a few fruit trees and growing a few vegetables, grapes, etc.) should know just exactly how to make Bordeaux mixture. At least, everyone should know just what purpose it serves and how to apply it, because if one does not care to make it, it can very easily be bought, as it is put up by commercial firms, and put into cans of many sizes, from a quart up. Of course, it is put up in the concentrated form, and to put it in the right shape for use dilute it with water according to instructions which come with each can or container.

How to Make Bordeaux Mixture.—Following is the method of making Bordeaux mixture at home: Take four pounds of bluestone and put it in a sack, and suspend the sack in a tub or other convenient vessel, which vessel should contain as many gallons of water as there are pounds of bluestone. In other words, if you are dissolving four pounds of bluestone put it in a vessel containing four gallons of water; if you are dissolving three pounds, put it in three gallons. Use a wooden vessel, as when it is put into a tin or other metal vessel, some chemical action takes place between the metal and the bluestone.

Suspend Bluestone in Water.—Suspend this sack containing the bluestone in such way that the bluestone is barely covered by water. Put it in late some afternoon and

allow it to remain in water during the night, and it should all be dissolved by morning. If the bluestone is thrown down in the bottom of the water, it will dissolve very slowly, but by suspending it, it will dissolve much more rapidly. This gives a stock solution that can be kept and used as needed. However, it should be kept in a wooden vessel and carefully covered.

To Make 50 Gallons of Bordeaux Mixture.—Now when you are ready to make up 50 gallons of the Bordeaux mixture, take 5 pounds of rock lime and slake it by adding enough water to complete the slaking, and make a thin paste. Then pour into the barrel or other container where the spray mixture is being made, say 25 or 30 gallons of water; then pour in the solution obtained by slaking the 5 pounds of rock lime. Then dip from the stock solution of bluestone enough of the mixture to get into this barrel four pounds of bluestone, and if the foregoing directions were followed, this would mean the dipping of four gallons of this stock solution; because we have said to dissolve the bluestone in as many gallons of water as there are pounds of bluestone. What is needed then is 4 pounds of bluestone, 5 pounds of rock lime, and 50 gallons of Bordeaux mixture, and when all of this is in the barrel together, stir thoroughly and you are ready for spraying.

Bordeaux Used on Nearly All Fruits.

Bordeaux is used for spraying apples, grapes, potatoes, tomatoes, and various other fruits. It is a fungicide and prevents the rot of apples, grapes, blight of potatoes, tomatoes, etc. Wherever one is using the Bordeaux and wishes to get after some of the insects that eat the fruit, such as the worm in the apple, the bug on the potato, etc., all that is necessary to make this spray a double-barrel shotgun is to add to the Bordeaux 2½ to 3 pounds of arsenate of lead to each 50 gallons of the mixture. This gives you something that will get both the diseases and the insects.

Never Use Slaked Lime.—It must not be forgotten that in making this mixture, air-slaked lime or a poor grade of lime must not be used. Only the very highest grade of rock lime that has not been slaked and is high-class in every respect must be used.

It is also important to add a sufficient amount of water to the lime when it is slaking to prevent burning. Not only must a sufficient quantity of water be added, but stirring must be kept up constantly. The lime should be kept almost covered with water. If this is not done, then the slaking will not be properly done and undesirable results will be obtained.

Concentrated Solution Retains Strength.—Before adding the arsenate of lead or anything of this kind to the spray mixture, it should be made into a thin milky solution by adding water to it. In other words, don't add the pure arsenate of lead to the spray mixture, but dilute it with water into a thin milky solution before it is added.

Keep Mixture Covered.—And keep in mind that Bordeaux mixture loses its strength if not used soon after making. Of course, the concentrated solution, properly covered and handled will retain its strength, but after it is diluted and put into the barrel or other container for spraying, it should be used as soon as possible.

CHAPTER XIX.

STORING APPLES FOR WINTER.

Apples are not so easily kept in storage during the winter in the South as in the North. This may sound strange, but it is a fact. The warmer the weather in the winter, the greater the difficulty in keeping the apples from rotting.

Never Store Apples While Warm.—In the middle and upper part of the South, however, there is no reason why everyone should not be able to keep well into winter and early spring some of the late winter apples. To do this, however, they must be picked at the right time and stored in the right place and in the right way. The important point is to pick them as soon as they are ripe, but do not pick them until they are thoroughly ripe.

Another important point is to see that they are properly cooled before they are carried into the storage place. An ideal way is to pick the apples on a cloudy day, or early in the morning before they get warm, and put them in the shade, allowing them to remain there during the day; then spread them out in the open during the night and let them get thoroughly cooled. Of course, they should not be put where they will be covered with dew, but put under a shelter or some place of that kind. Then, early the next morning put them into the storage place, wherever that may be.

Proper Ventilation Essential.

Those houses that are equipped with cellars that are well ventilated are all right for storing apples. After carrying them into the cellar or other storage place, keep it closed during the day so the heat of the day will not penetrate so much. Open up at night so as to permit the cool air to enter and then shut the door the following morning before it gets warm.

This same method can be practiced, not only with cellars but with a boxed up place under the house, provided, of course, it is so arranged that it can be well ventilated and is not near a place where it will become too warm from the chimney or other heating apparatus of the house.

Store Apples When Properly Matured.—The proper thing to remember is to put the apples in storage when they are properly matured, see that they are thoroughly dry and cool when put in storage, and that they are put into such place that will permit of thorough ventilation. Of course, they must be put in such place that they can be protected from severe cold spells to prevent freezing, but in most sections of the South there will be far less danger of the apples freezing than there will be of rotting from becoming too warm. Therefore, special precaution must be taken to see to it that they be put in a place where they can be kept cool enough. Where one apple rots in storage in the South from freezing, there are a hundred that rot from becoming too warm.

Store Apples in Slatted Boxes.

In storing away apples for the winter, whether they are put in a cellar, under the house, in the barn, or some other place, it is a good idea to put them in boxes, preferably slatted boxes. These may hold from a half bushel to three pecks or a bushel. Put them in boxes and then pack up the boxes, one on top of the other, but do not pack them too closely. Let there be plenty of room between each row of boxes for air to circulate freely.

Where one has only just a few bushels to store, it is all right to put them in any kind of box or basket, but preferably boxes that are slatted so as to permit the air to circulate as nearly all around the apples as possible.

Keep in mind that it doesn't matter so much where the apples are put for storage if one can put them in a place where they will not get too warm and prevent their freezing

on the few nights that are cold enough for them to freeze. These are the important points, and if these simple directions are kept in mind, there is no reason why everyone in the central and upper part of the South should not store some of the late apples for winter use.

Store Only Winter Varieties.

Of course, one should not attempt to store the summer or early fall varieties for winter use. Take the late maturing varieties and those that keep well, like the Winesap, Limber Twig and other varieties of this kind. They will keep far more easily than will the early fall varieties.

Remove Covering When All Danger of Freezing Has Passed.—We have seen a few bushels of apples kept successfully well into the winter by putting them in a well ventilated barn. When a cold spell came along some hay, straw or fodder was thrown over them, taking care, of course, to remove the hay or straw as soon as all danger of freezing had passed.

Now, while it is important to store apples where they will not freeze, we want to again emphasize the point that it is the heat, or the apples becoming too warm that one should give more attention than anything else. Those who will put them in properly cooled and keep them cool without allowing them to freeze, will have no trouble in keeping them a reasonable length of time during the winter, or even into the early spring.

If You Live in the South

There is an edition of The Progressive Farmer made to meet your exact needs.

The Progressive Farmer is not just one paper made to cover the entire South. It is four papers, each called The Progressive Farmer.

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